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ABSTRACT

This manual presents a Task Analysis Process (TAP) designed to provide its users with a method to systematically analyze occupations in terms of tasks and procedural techniques for organizing them and related knowledges into vocational education program curricula. The process is intended for use by secondary and postsecondary schools for designing new programs and courses and maintaining or modifying existing programs and courses. Introductory information lists benefits, grouped by user population, that are derived from TAP implementation and discusses personnel and their responsibilities and required resources. Step-by-step instructions follow that are meant for use as a suggested sequence of activities for completing the TAP. The TAP is composed of three major sections, each containing a corresponding worksheet to be completed by the Task Analyst(s). Worksheet 1 allows for identification of the vocational education program and its associated occupational outcomes. Each of these associated occupations is then broken down into its component tasks using Worksheet 2. These component tasks and other occupation-related skills and knowledges are grouped into courses on Worksheets 3A and 3B in the third section. An introduction, sample, instructions, and examples are provided for each worksheet. Appendexes include course outline and lesson plan development, Program Course Inventory, and worksheets. (YLB)

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ED212885

Task Analysis

A PROCESS MANUAL FOR THE DEVELOPMENT OF NEW AND/OR MODIFICATION OF INSTRUCTIONAL CURRICULA

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INTRODUCTION

The Task Analysis Process (TAP) is predicated upon the premise that a vocational education program can and should be defined in terms of its component courses and its relationship to specific occupations. Therefore, the Task Analysis Process presented here has been designed to provide its users with a method to systematically analyze occupations in terms of tasks and procedural techniques for organizing these job tasks and related knowledges into vocational education program curriculum. Although this Task Analysis Process was developed as a suggested methodology primarily for use by secondary and postsecondary schools/colleges for: (a) designing new programs and courses, and (b) maintaining or modifying existing programs and courses, it can be equally useful to CETA and other agencies that provide vocational training.

Since the purpose of the Task Analysis Process is to provide assurance that the curriculum content of vocational education programs will correspond to employer-required skills and knowledges necessary for successful employment in specific occupations, the basic analysis process begins with identifying the vocational education program and its associated occupational outcomes or jobs. The remaining steps include analyzing these associated occupations for their component tasks and then organizing those tasks into courses.

There are a number of important definitions and underlying concepts which are critical to the comprehensive understanding and successful implementation of the Task Analysis Process. First, consider the term "vocational education." While there are a number of definitions for this term, all of them reference the fact that "*vocational education's purpose is to prepare individuals for gainful employment.*" It is this very basic but absolutely critical concept that is the basis for the development and implementation of the Task Analysis Process. Again, vocational education programs have a definable relationship to specific occupations.

Occupations are composed of a series of work elements, or "tasks." A task is defined as "an action or sequence of actions that coordinate significantly to the completion of a specific work objective."[1] It is the smallest unit of work that has a beginning and an end. A task indicates what a person actually does on a job, rather than what s/he is responsible for. Hence, "task analysis is a systematic way of finding out what functions and tasks are included in a given job or position."[2]

Task analysis provides useful and necessary information about the employer-required skills and knowledges that a learner must possess for successful performance on the job. However, to be useful for instructional purposes, these tasks must be organized or sequenced into "courses." A "course is an organization of related subject matter and learning experiences presented to students on a systematic basis for a predetermined length of time (e.g., a quarter, semester, school year, or other designation)." One or several courses may result from this organization or sequencing of tasks. These resulting courses, then, represent, a "vocational education program" or "a planned sequence of courses, services, or other educational activity designed to prepare individuals for employment in a specific occupation or cluster of closely related occupations." Therefore, a student who has successfully completed all the courses related to his/her vocational education program should have the necessary skills to successfully obtain employment in one or more specific occupations.

The utilization of the Task Analysis Process in the curriculum planning process produces a clear concise description of the vocational education program, its occupational relationships, objectives, the scope and sequence of its course, course content and prerequisite and requisite requirements. This process can be beneficial to students, the public, the district board, and the district school staffs. The following is a listing, grouped by user population, of the possible benefits derived from implementation of the Task Analysis Process.

1. Student and Parent Benefits

   A. Provides knowledge about the specific occupations associated with the program.

   B. Identifies the required, required optional, and optional courses associated with the program.

   C. Fully describes the mathematics and language requirements for the occupations associated with the vocational education program.

   D. Assures that vocational programs have been verified with local industry to meet employment standards.

   E. Verifies that the instructional content of the program is current and up-to-date.

   F. Defines the requirements for successful completion of vocational education programs.

2. Teacher Benefits

   A. Provides a standard procedure for organizing instruction.

   B. Involves other school district personnel (i.e. academic teachers, counselors, and administrators) in vocational education to enhance communication linkages.

   C. Provides a methodology for validating the curriculum content of a program through an advisory committee.

   D. Encourages routine and periodic procedures for justifying changes in curriculum, equipment, facilities, and other instructional factors.

   E. Defines the requisite and prerequisite student math and language requirements.

3. Counselor Benefits

   A. Provides a mechanism to advise counselees about mathematics and language requirements for specific occupations and vocational education programs.

3. Counselor Benefits (Continued)

B. Correlates courses/program with occupational goals to facilitate advisement about counselee's course of study.

C. Provides a mechanism to match the counselee's physical characteristics with the physical requirements of the job.

D. Provides a means for teachers and counselors to discuss program requirements and compare these requirements with the characteristics of the student.

E. Identifies the scope and sequence of courses within each vocational program.

4. Administrative Benefits

A. Defines a method for routinely verifying, with pertinent local industries, the curriculum of a vocational education program.

B. Standardizes the process for identifying the relationships between a vocational education program, its courses, and associated occupations.

C. Provides a systematic method for coordinating instructional program data with Federal, State and Standard Metropolitan Statistical Area labor market information.

D. Provides a foundation for external program evaluation which is compatible with State and Federal program reviews and accounting practices.

E. Establishes criteria needed for horizontal articulation between vocational education programs and courses in mathematics and English.

F. Establishes the criteria needed for vertical articulation with regional occupational programs/centers, community colleges and other educational institutions.

G. Provides a mechanism for involving the local community in the instructional process.

PRELIMINARY CONSIDERATIONS

The TAP is a curriculum construction procedure developed to assist in (a) the designing of new vocational education programs and courses and (b) the modification, or maintenance of existing programs and courses. For each of these alternatives, there are some preliminary considerations that the user should address before beginning the TAP.

The TAP can be used to evaluate existing programs; however, time constraints usually will not permit the analysis of all programs being offered within an educational institution. In this case, it is important to focus upon those programs for which the process would be most valuable. For example, recent changes in technology may have altered many of the skills and knowledges required for employment in a particular occupation; therefore, modifications in the curriculum content may be appropriate for the vocational education program training for that occupation. The TAP can help to pinpoint those areas of the curriculum which may require modification. Other programs which may benefit from analysis by this process include those that have (a) high student enrollment but low student placement, (b) low student retention, and (c) good placement potential but low enrollment.

The TAP can be particularly useful for those persons involved in the development and planning of new programs. The TAP includes a method to (1) identify the specific occupations for which the program trains (2) analyze these occupations to determine the specific tasks the student will be required to perform on the job and (3) incorporate the teaching of these tasks and related knowledge, skills, and work habits into instructional content. Thus, the teacher designing his/her program and the corresponding curriuculm can be assured that the student is receiving the instruction needed for successful job acquisition and performance. Since the TAP also provides for the identification of the tools, equipment, and machinery that may be required for the program, an assessment of the program feasibility in terms of the possible expenditures can be made.

Personnel Requirements

The following suggested persons have been identified as needed to successfully complete the TAP.

- Curriculum group, i.e., teachers, and/or administrators, department heads, etc.
- Advisory Committee
- Clerical staff

Personnel Responsibilities

1. Curriculum Group

   The curriculum group should have the primary responsibility for actually performing the TAP. While there are no limitations that need to be placed on those participating in the process, the following are some alternatives for consideration when forming this group.

   A. The subject matter chosen will determine the instructional staff to be involved in the process. These individuals should include the prospective instructor or instructors and/or department chairperson as appropriate.

   B. If the program to be analyzed will be designed for special purposes, i.e. handicapped or limited English-speaking populations, etc., it may be appropriate to include persons with expertise in those fields.

   C. If the process is to be for lateral and/or vertical articulation purposes, there should be instructor representation from each school participating in the articulation agreement.

2. Advisory Committee(s)

A. Purpose of the Advisory Committee(s)

Since Federal and State regulations stipulate the use of vocational education program advisory committees, this same group can be utilized to provide input to the curriculum group to assure the linkage between training programs and the communities which the programs are designed to serve.

B. Tasks Performed by Advisory Committee(s)

Assisting program administrators and teachers can be done in a number of ways. Some of the ways advisory committees can be helpful are by:

1. making community surveys;
2. determining and verifying the need for training;
3. providing tangible evidence that industry is supporting the program;
4. forecasting trends affecting training and employment;
5. evaluating proposed or ongoing programs;
6. providing financial, legislative and moral support;
7. interpreting the program to the community, the unions and the employers;
8. planning facilities and establishing standards for shops and laboratories;
9. establishing standards for selecting equipment and instructional materials;
10. securing donations of equipment and supplies;
11. updating the curriculum to keep it current with occupational changes;
12. determining instructor qualifications and recruiting prospective teachers;
13. providing accurate occupational information to students and educators;
14. finding placement opportunities for students; and
15. encouraging all public relation efforts in behalf of the program, the school, and the students/trainees.

C. The Composition of An Advisory Committee

An advisory committee for a vocational education program may consist of any number of people, however, several sources cite between six and ten to be the ideal range for maximum efficiency. The committee should be selected for the widest possible representational scope in order to insure that committee input bears the truest relationship to the program's occupational output and the community as a whole. Suggested members are:

1. educators from programs which have articulation (either vertical or horizontal) with the program in question;
2. potential employers of students trained in the program;
3. employees who currently hold the kinds of jobs for which the students are being trained;
4. graduates of the program;
5. representatives from organized labor;
6. members of professional organizations;
7. members of civic groups, i.e., Chamber of Commerce;
8. employment service personnel; and,
9. school representative(s) (students, administrators).

D. The Selection of a Program Advisory Committee

The first task in selecting an advisory committee for a vocational program is to identify the labor market area in which the program functions. Remember the geographical area where the program's completers may find work is often considerably larger than the school district or the county.

Some members of the advisory committee should be associated with organizations which may employ or assist in the employment of the program's completers. Therefore, in order to obtain adequate input on the necessary job skills and knowledges as well as potential employment sites for students the program administrators must accurately identify the industries and firms which are applicable to the program in question. The TAP and the Vocational Preparation and Occupations (VPO) provide several key pieces of information to facilitate this selection process. It is recommended therefore, that you read through both of these publications prior to selecting advisory committee members.

C. Clerical Staff

Since much of the information collected through this process may become a permanent part of the documentation for your program, clerical staff are needed for the final preparation of the forms. In addition, some parts of instruction require Xeroxing of various documents which the clerical staff could perform in advance.

Required Resources

The following materials and resources are required to complete the TAP:

1. A copy of the Vocational Preparation and Occupations (VPO), Volume 1, and Occupation and Education Code Crosswalk, published by the National Occupational Information Coordinating Committee (NOICC). For information regarding this publication contact:

   Ventura County Superintendent of Schools Office
   Special Projects Unit
   535 East Main Street
   Ventura, California 93009
   (805) 487-7711, extension 4429

2. A copy of the fourth edition of the Dictionary of Occupational Titles (DOT), published by the U.S. Department of Labor, Employment and Training Administration, 1979, which is for sale by:

   Superintendent of Documents
   U.S. Government Printing Office
   Washington, D.C.
   Stock No. 029-013-00079-9

3. Master copies of Worksheets #1, 2, 3A and 3B (see end of manual for master copies).

4. Scissors, glue or scotch tape and pencils.

5. A room with work table and access to a copying machine.

   NOTE: If a copy of the VPO is not available, a copy of the Vocational Education and Occupation (VEO) may be substituted. However, the VEO contains third edition DOT titles rather than the fourth edition DOT codes and titles found in the VPO. The fourth edition DOT contains the most recent job descriptions and is consequently more reflective of the current labor market. Therefore, use of the VEO in the TAP will require a conversion from the third to the fourth edition DOT codes and titles. The U.S. Department of Labor, Employment and Training Administration has published "Conversion Table of Code and Title Changes Third to Fourth Edition Dictionary of Occupational Titles" which can be purchased through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., Stock Number 029-013-00082-9. Those utilizing the VEO, rather than the VPO, in the TAP should acquire this publication.

FORMAT OF THE TASK ANALYSIS PROCESS (TAP) MANUAL

The step-by-step instructions contained within the following pages are meant to be used as a suggested sequence of activities for completing the TAP. As the user (or Task Analyst) becomes familiar with the TAP, s/he may want to make modifications in the sequence of activities in order to meet the unique needs of the educational agency.

The TAP is composed of three major sections. Each of these sections contains a corresponding worksheet which is to be completed by the Task Analyst(s). In the first section, Worksheet #1 allows for the identification of the vocational education program and its associated occupational outcomes. By utilizing Worksheet #2 contained in the second section, each of these associated occupations is then broken down into its component tasks. These component tasks and other occupation-related skills and knowledges are then grouped into courses on Worksheets #3A and #3B found in the third section.

In order to demonstrate the TAP and to provide further clarification of the instructions contained in each section, USOE program 14.0102, Bookkeepers, has been utilized as an example throughout this publication. Since the TAP was designed to be a flexible process, others using the TAP to analyze a Bookkeeper Program may have final worksheets which are not identical to the completed worksheets contained in this publication.

For those using the TAP to design and implement new programs or to modify existing programs, information on course outline and lesson plan development has been included in Appendices A and B respectively. Appendix A also provides instructions for completing the Standard Course Outline (SCO), a form which summarizes additional course information that may be required for course approval/implementation. The Program Course Inventory (PCI), included in Appendix C, describes the program in terms of the courses comprising it and its occupational objectives.

INTRODUCTION TO WORKSHEET #1
OCCUPATIONAL OUTCOME (DOT) SELECTION

Worksheet #1 establishes the key link between education/training and work by identifying the occupations which are the principal outcome of the vocational learning process. When Worksheet #1 is completed, the Task Analyst will have an accurate description of a vocational education/training program in terms of its:

1. USOE program code number;
2. USOE program title;
3. USOE program description;
4. Occupational outcome which includes:
    a. occupational group arrangements,
    b. industry in which each listed occupation occurs, and
    c. physical requirements, working conditions of each listed occupation.

NOTE: At this time, *Vocational Preparation and Occupations* (VPO) is the only publication which displays the fourth edition DOT codes and titles with their associated subcodes. Therefore, if the VPO is not utilized in the process, these useful and important subcodes will not be available to the Task Analyst. Page 29 of this publication outlines special procedures to be followed when (1) the VPO is not utilized and (2) an unusual or unique situation occurs.

Page ___ of ___

OCCUPATIONAL OUTCOME (DOT) SELECTION

Task Analysis Worksheet 1

Section A. - USOE Program Code, Title and Descriptor

Workspace 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE 4th EDITION TITLE	GED R.M.L	S V P	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Workspace 2
	Section B. List of Occupational Outcomes (DOT 4th Edition)						

OCCUPATIONAL OUTCOME SELECTION PROCESS
WORKSHEET #1

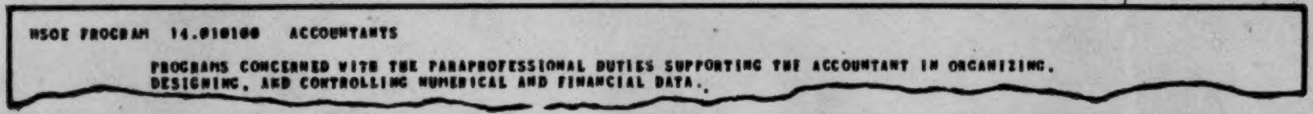
INSTRUCTIONS

1. By examining the crosswalk tables of the VPO find the United States Office of Education (USOE) program descriptor and code which most accurately describes the program you are analyzing.

EXPLANATION (Definitions, Supportive Information, etc.)

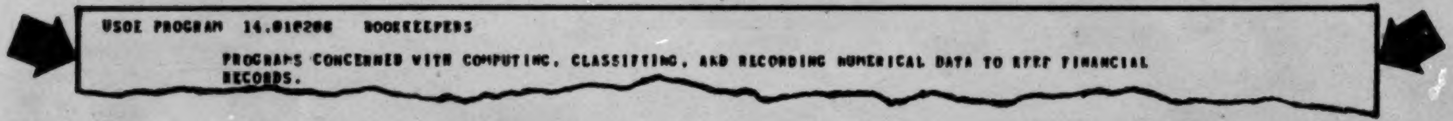
A complete listing of USOE program code numbers and descriptors can be found in the National Occupational Information Coordinating Committee's (NOICC) publication Vocational Preparation and Occupations (VPO). (See page 29 for instructions if the VPO is not available.)

The USOE code system is constructed so that the more digits there are in a given program's code number, the greater the specificity of the descriptor. In other words, 14.000000 is the code number for a program descriptor covering all office occupation programs; 14.010000 is the number for all accounting and computing occupation programs; and 14.010200 describes a program designed to train specifically for bookkeeping occupations. Be sure you pick the most specific description which applies to your program. If none of these descriptors accurately describe your program, please refer to page 29 for further instructions.



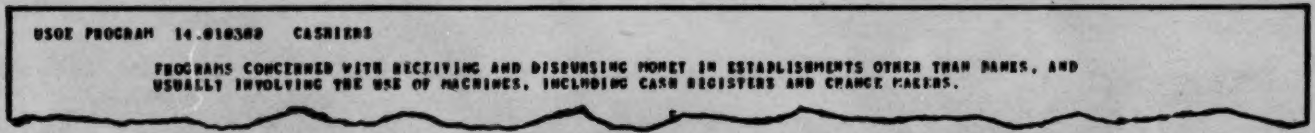
USOE PROGRAM 14.010100 ACCOUNTANTS

PROGRAMS CONCERNED WITH THE PARAPROFESSIONAL DUTIES SUPPORTING THE ACCOUNTANT IN ORGANIZING, DESIGNING, AND CONTROLLING NUMERICAL AND FINANCIAL DATA.



USOE PROGRAM 14.010200 BOOKKEEPERS

PROGRAMS CONCERNED WITH COMPUTING, CLASSIFYING, AND RECORDING NUMERICAL DATA TO KEEP FINANCIAL RECORDS.



USOE PROGRAM 14.010300 CASHIERS

PROGRAMS CONCERNED WITH RECEIVING AND DISBURSING MONEY IN ESTABLISHMENTS OTHER THAN BANKS, AND USUALLY INVOLVING THE USE OF MACHINES, INCLUDING CASH REGISTERS AND CHANGE MAKERS.

INSTRUCTIONS

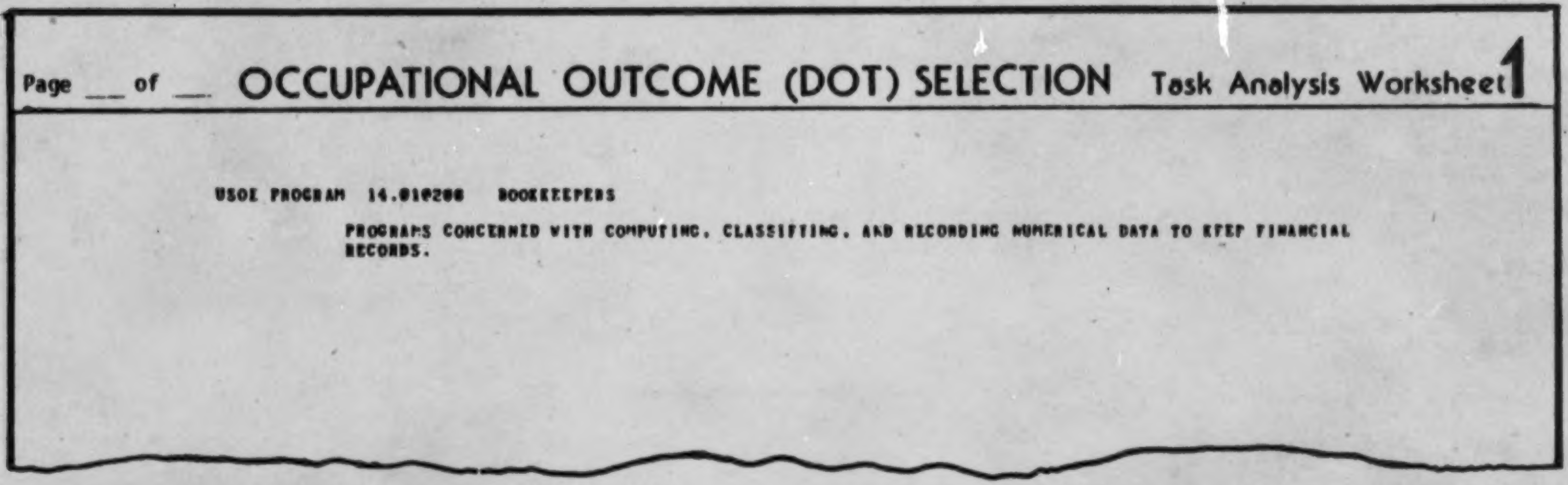
2. Xerox the page of the VPO containing the chosen program. (Be sure to copy the occupations which accompany the description.)

INSTRUCTIONS

3. Cut out the USOE code number, title and descriptor from the Xerox copy and paste it on Worksheet #1, Section A.

EXPLANATION

In the example, the Task Analyst has chosed to develop USOE program 14.010200, Bookkeepers.



Page __ of __ **OCCUPATIONAL OUTCOME (DOT) SELECTION** Task Analysis Worksheet 1

USOE PROGRAM 14.010200 BOOKKEEPERS

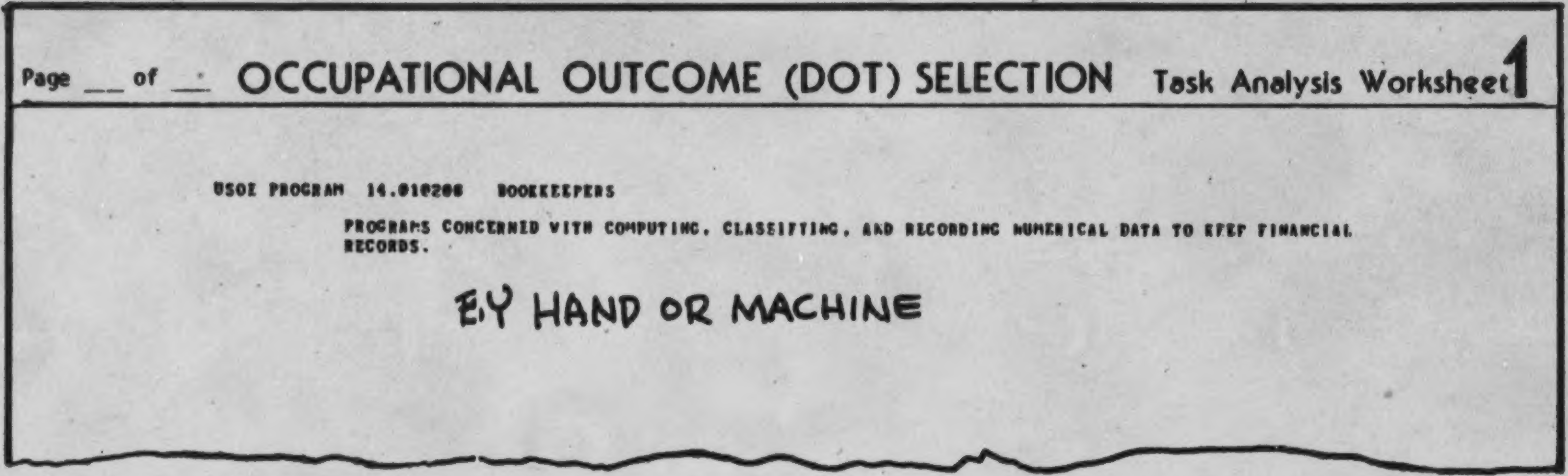
PROGRAMS CONCERNED WITH COMPUTING, CLASSIFYING, AND RECORDING NUMERICAL DATA TO KEEP FINANCIAL RECORDS.

INSTRUCTIONS

4. Check the descriptor to be sure it portrays your program accurately. If it doesn't, add or delete information.

EXPLANATION

In the example below, the Task Analyst added "by hand or machine" to the descriptor in order to reflect the current occupational trend toward machine bookkeeping.



Page __ of __ OCCUPATIONAL OUTCOME (DOT) SELECTION Task Analysis Worksheet 1

USOE PROGRAM 14.010200 BOOKKEEPERS

PROGRAMS CONCERNED WITH COMPUTING, CLASSIFYING, AND RECORDING NUMERICAL DATA TO KEEP FINANCIAL RECORDS.

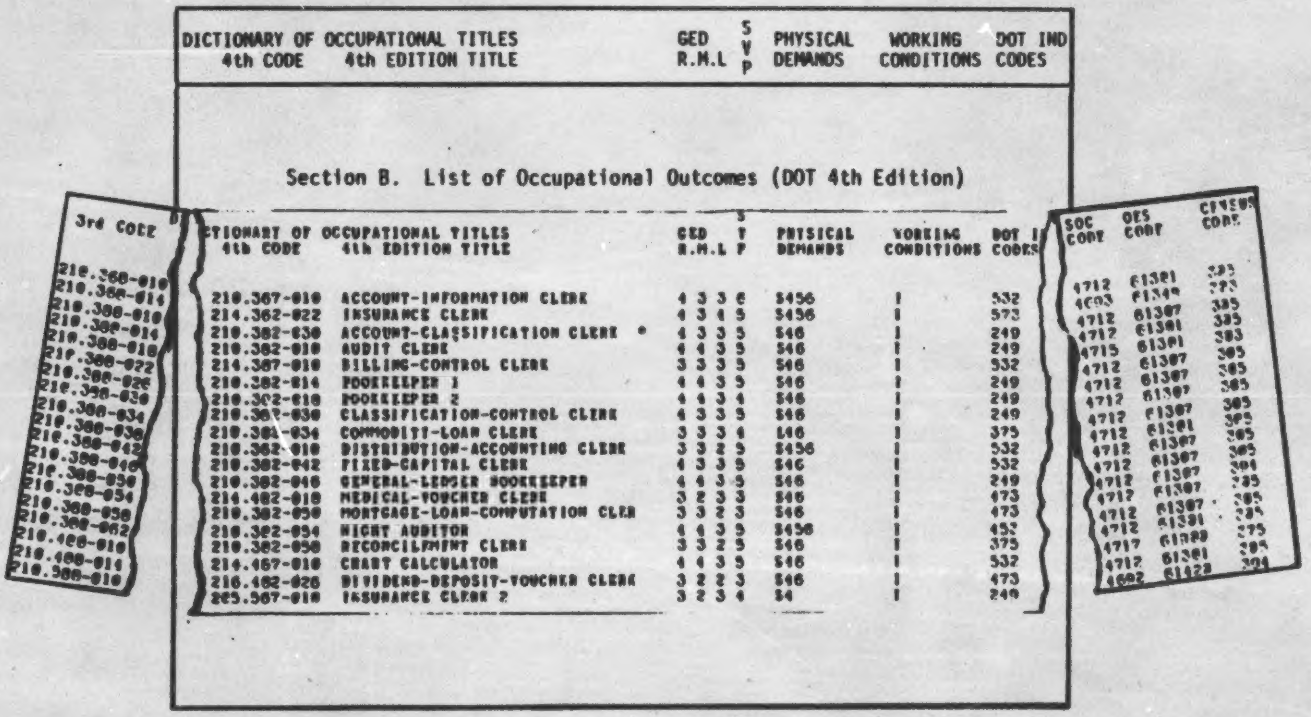
BY HAND OR MACHINE

INSTRUCTIONS

5. From the Xerox copy, cut out the occupational information shown for your chosen program. After eliminating the columns headed "3rd Code," (if included), "SOC Code," "OES Code," and "Census Code," paste the remaining block of information under the matching columns in Section B of Worksheet #1.

EXPLANATION

The list shown below each USOE program descriptor is a suggested list of occupations for which the described program is training students. The list of occupations is not complete but is illustrative of occupations associated with the educational program.



DICTIONARY OF OCCUPATIONAL TITLES 4th CODE 4th EDITION TITLE | GED R.M.L | S V P | PHYSICAL DEMANDS | WORKING CONDITIONS | DOT IND CODES

Section B. List of Occupational Outcomes (DOT 4th Edition)

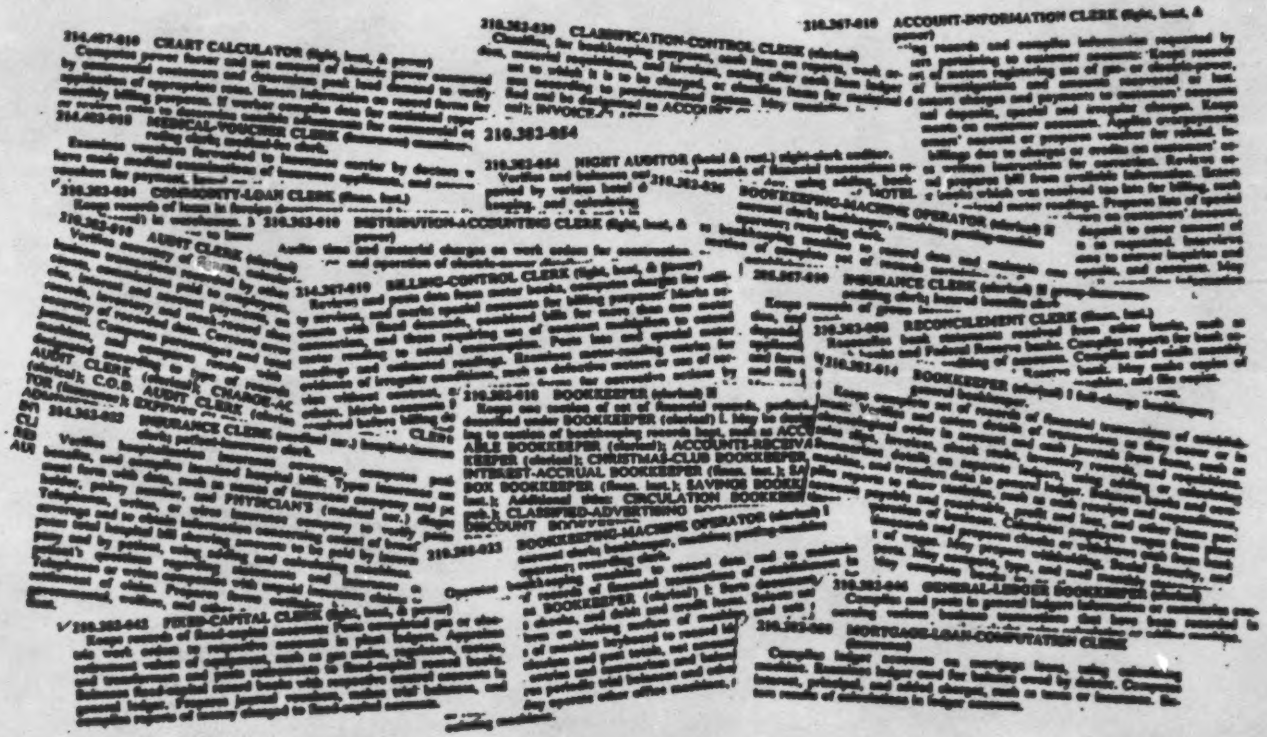
DICTIONARY OF OCCUPATIONAL TITLES 4th CODE	4th EDITION TITLE	GED R.M.L	SVP	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES
210.367-010	ACCOUNT-INFORMATION CLERK	4 3 3	6	S456	I	532
214.362-022	INSURANCE CLERK	4 3 4	5	S456	I	573
210.382-030	ACCOUNT-CLASSIFICATION CLERK *	4 3 3	5	S46	I	249
210.382-010	AUDIT CLERK	4 4 3	5	S46	I	249
214.367-010	BILLING-CONTROL CLERK	3 3 3	5	S46	I	532
210.382-014	BOOKKEEPER 1	4 4 3	5	S46	I	249
210.382-018	BOOKKEEPER 2	4 4 3	4	S46	I	249
210.382-030	CLASSIFICATION-CONTROL CLERK	4 3 3	5	S46	I	249
210.382-034	COMMODITY-LOAN CLERK	3 3 3	4	L46	I	375
210.382-010	DISTRIBUTION-ACCOUNTING CLERK	3 3 2	5	S456	I	532
210.382-042	FIXED-CAPITAL CLERK	4 3 3	5	S46	I	532
210.382-046	GENERAL-LEDGER BOOKKEEPER	4 4 3	5	S46	I	249
214.482-018	MEDICAL-VOUCHER CLERK	3 2 3	3	S46	I	473
210.382-050	MORTGAGE-LOAN-COMPUTATION CLER	3 3 2	3	S46	I	473
210.382-054	NIGHT AUDITOR	4 4 3	5	S456	I	452
210.382-058	RECONCILEMENT CLERK	3 3 2	5	S46	I	375
214.467-010	CHART CALCULATOR	4 4 3	5	S46	I	532
216.482-026	DIVIDEND-DEPOSIT-VOUCHER CLERK	3 2 2	3	S46	I	473
205.367-010	INSURANCE CLERK 2	3 2 3	4	S4	I	249

INSTRUCTIONS

6. Using the fourth edition DOT make Xerox copies of the occupational definitions for each occupation now appearing in Section B of Worksheet #1. These descriptors will be utilized in later steps to assure the correct association of USOE program with occupational outcomes.

EXPLANATION

Each occupation listed has a nine-digit code which reflects the coding system used in the fourth edition DOT to classify the kind and level of work performed. These codes are sequenced in the DOT by ascending numerical order beginning with code number 001.061-010 on page 15 and ending with code number 979.687-022 on page 946. *In this example*, 205.567-010, Insurance Clerk II, would be the first occupational definition you would copy from the fourth edition DOT.



INSTRUCTIONS

7. Using the listing of DOT industries and codes which is found in an appendix within the VPO or the Standard Occupational Classification Manual (SOC), write out the title of each of the DOT industry codes associated with the occupations in Section B of Worksheet #1. Use Workspace 2 for this. The DOT Industry Designation may also be obtained by examining the DOT occupational definitions which were copied in Step 6. The Industry Designation follows the occupational title and is enclosed in parentheses (), e.g., Account Information Clerk, (Light, Heat and Power).

EXPLANATION

Each occupational title defined in the fourth edition DOT has at least one Industry Designation to identify the industry or industries in which a given occupation is most commonly found, i.e, 210.367-010 Account Information Clerks, are most commonly found in industry 532 - "Light, Heat and Power."

Workspace 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE	4th EDITION TITLE	GED R.M.L	S V P	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Workspace 2
	210.367-010	ACCOUNT-INFORMATION CLERK	4 3 3	6	S456	I	532	LIGHT, HEAT & POWER
	214.362-022	INSURANCE CLERK	4 3 4	5	S456	I	572	MEDICAL SERVICES
	210.382-030	ACCOUNT-CLASSIFICATION CLERK •	4 3 3	5	S46	I	249	CLERICAL
	210.382-010	AUDIT CLERK	4 4 3	5	S46	I	249	
	214.387-010	BILLING-CONTROL CLERK	3 3 3	5	S46	I	532	
	210.382-014	BOOKKEEPER 1	4 4 3	5	S46	I	249	
	210.382-018	BOOKKEEPER 2	4 4 3	4	S46	I	249	
	210.382-030	CLASSIFICATION-CONTROL CLERK	4 3 3	5	S46	I	249	
	210.382-034	COMMODITY-LOAN CLERK	3 3 3	4	L46	I	375	FINANCIAL INSTITUTIONS
	210.362-010	DISTRIBUTION-ACCOUNTING CLERK	3 3 2	5	S456	I	532	
	210.382-042	FIXED-CAPITAL CLERK	4 3 3	5	S46	I	532	
	210.382-046	GENERAL-LEDGER BOOKKEEPER	4 4 3	5	S46	I	249	
	214.482-018	MEDICAL-VOUCHER CLERK	3 2 3	3	S46	I	473	INSURANCE
	210.382-050	MORTGAGE-LOAN-COMPUTATION CLER	3 3 2	3	S46	I	473	
	210.382-054	NIGHT AUDITOR	4 4 3	5	S456	I	453	HOTEL & RESTAURANT
	210.382-058	RECONCILEMENT CLERK	3 3 2	5	S46	I	375	
	214.467-010	CHART CALCULATOR	4 4 3	5	S46	I	532	
	216.482-026	DIVIDEND-DEPOSIT-VOUCHER CLERK	3 2 2	3	S46	I	473	
	205.367-010	INSURANCE CLERK 2	3 2 3	4	S4	I	249	

INSTRUCTIONS

8. Based on the industries which are listed, eliminate any occupations which you feel are inappropriate or unlikely outcomes of your program by drawing a line through them.

EXPLANATION

DOT industry codes are usually assigned to an occupation based on the industry in which that occupation occurs. However, in some cases certain occupations occur in a large number of industries. When this happens, the occupation is assigned a cross-industry designation. For example, clerical occupations are found in almost all industries. Therefore, "clerical" is an industry designation in itself and is indicated by DOT Industry Code 249. Other occupations may occur in a number of industries but not so widely that they warrant their own industry designation. These occupations have been given an "any industry designation" indicated by DOT Industry Code 138. Since "any industry" and cross-industry designation are so broad in nature, it may not be appropriate to eliminate occupations with these industry designations from Worksheet #1.

In the example, the Task Analyst eliminated occupations associated with the following industries: 375 Financial Institutions; 473 Insurance; and, 453 Hotel and Restaurant. Occupations retained were from categories: 573 Medical Services; 532 Light, Heat and Power; and, 249 Clerical. By utilizing various sources of information,* the Task Analyst was aware that these three types of industries had the largest employment potential in the labor market being served by the program in question.

Workspace 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE	4th EDITION TITLE	GED R.M.L	SVP	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Workspace 2
	210.367-010	ACCOUNT-INFORMATION CLERK	4 3 3	6	S456	I	532	LIGHT, HEAT & POWER MEDICAL SERVICES CLERICAL
	214.362-022	INSURANCE CLERK	4 3 4	5	S456	I	573	
	210.382-030	ACCOUNT-CLASSIFICATION CLERK *	4 3 3	5	S46	I	249	
	210.382-010	AUDIT CLERK	4 4 3	5	S46	I	249	
	214.387-010	BILLING-CONTROL CLERK	3 3 3	5	S46	I	532	
	210.382-014	BOOKKEEPER 1	4 4 3	5	S46	I	249	
	210.382-018	BOOKKEEPER 2	4 4 3	4	S46	I	249	
	210.382-030	CLASSIFICATION-CONTROL CLERK	4 3 3	5	S46	I	249	
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~S46~~	~~I~~	~~375~~	FINANCIAL INSTITUTIONS
	210.362-010	DISTRIBUTION-ACCOUNTING CLERK	3 3 2	5	S456	I	532	
	210.382-042	FIXED-CAPITAL CLERK	4 3 3	5	S46	I	532	
	210.382-046	GENERAL-LEDGER BOOKKEEPER	4 4 3	5	S46	I	249	
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~S46~~	~~I~~	~~473~~	INSURANCE
	~~[illegible]~~	~~MORTGAGE-LOAN COMPUTATION CLERK~~	~~[illegible]~~	~~[illegible]~~	~~S46~~	~~I~~	~~473~~	
	~~[illegible]~~	~~NIGHT AUDITOR~~	~~[illegible]~~	~~[illegible]~~	~~S456~~	~~I~~	~~453~~	HOTEL & RESTAURANT
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~S46~~	~~I~~	~~375~~	
	214.467-010	CHART CALCULATOR	4 4 3	5	S46	I	532	
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~S46~~	~~I~~	~~[illegible]~~	
	205.367-010	INSURANCE CLERK 2	3 2 3	4	S4	I	249	

* See page 21 for information sources.

INSTRUCTIONS

9. Based on an analysis of your labor market needs, eliminate any occupation which you determine to be in low demand in your geographical area.

EXPLANATION

By utilizing Advisory Committee input, student placement history and/or Employment Development Department (EDD) publications,* you may determine that certain occupations are in very low demand in your labor market area. By eliminating low-demand occupations on Worksheet #1, you can focus your instruction upon those occupations which are more realistic in light of actual job opportunities in your geographical area.

In this example, the Task Analyst determined that all occupations remaining on Worksheet #1 were in sufficient demand to be included in the TAP.

Workspace 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE	4th EDITION TITLE	GED R.M.L	SVP	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Workspace 2
	210.367-010	ACCOUNT-INFORMATION CLERK	4 3 3	5	S456	I	532	LIGHT, HEAT & POWER
	214.362-022	INSURANCE CLERK	4 3 4	5	S456	I	[illegible]	MEDICAL SERVICES
	210.382-030	ACCOUNT-CLASSIFICATION CLERK *	4 3 3	5	S46	I	249	CLERICAL
	210.382-010	AUDIT CLERK	4 4 3	5	S46	I	249	
	214.387-010	BILLING-CONTROL CLERK	3 3 3	5	S46	I	532	
	210.382-014	BOOKKEEPER 1	4 4 3	5	S46	I	249	
	210.382-018	BOOKKEEPER 2	4 4 3	4	S46	I	249	
	210.382-030	CLASSIFICATION-CONTROL CLERK	4 3 3	5	S46	I	249	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	I	[illegible]	FINANCIAL INSTITUTIONS
	210.362-010	DISTRIBUTION-ACCOUNTING CLERK	3 3 2	5	S456	I	532	
	210.382-042	FIXED-CAPITAL CLERK	4 3 3	5	S46	I	532	
	210.382-046	GENERAL-LEDGER BOOKKEEPER	4 4 3	5	S46	I	249	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	I	[illegible]	INSURANCE
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	I	[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	I	[illegible]	HOTEL & RESTAURANT
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	I	[illegible]	
	214.467-010	CHART CALCULATOR	4 4 3	5	S46	I	532	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	I	[illegible]	
	205.367-010	INSURANCE CLERK 2	3 2 3	4	S4	I	249	

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* See page 21 for information sources.

*To obtain industrial and occupational information on your labor market area the following sources may be utilized:

1. The California State Employment Development Department collects, analyzes and publishes industrial and occupational data by Standard Metropolitan Statistical Area (SMSA) and, in some cases, by county. These publications include: "Manpower 1980-1985," "Annual Planning Information," and "Supply/Demand Information." For copies and/or additional information for your geographical area, contact your local Employment Development Department.

2. Your Advisory Committee, with representation from local industries and businesses can provide input on the industrial composition and job demand within your local geographical area.

INSTRUCTIONS

10. Carefully read the DOT occupational definitions (copied in Step 6) for each occupation remaining on Worksheet #1. Based on the definitions, eliminate any occupations which you feel are not appropriate occupations for inclusion in the analysis process.

EXPLANATION

In the example, the Task Analyst, after reading the occupational definitions, eliminated the following occupations from the list: Account Information Clerk; Insurance Clerk; Account Classification Clerk; Billing Control Clerk; Distribution Accounting Clerk; Fixed Capital Clerk; Chart Calculator; and, Insurance Clerk 2. The Analyst felt that the tasks described in these occupations were so specific to a particular industry that the time spent teaching these tasks could be better used teaching tasks with broader industry applicability, thus assuring increased student placement. In addition, the Task Analyst eliminated Account Classification Clerk because it is simply an alternative title for Classification Control Clerk which has the same code number and description. (In the VPO, alternative titles are marked with an asterisk.)

Workspace 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE	4th EDITION TITLE	GED R.M.L	SVP	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Workspace 2
	~~[illegible]~~	~~ACCOUNT INFORMATION CLERK~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	LIGHT, HEAT & POWER
	~~[illegible]~~	~~INSURANCE CLERK~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	MEDICAL SERVICES
	~~[illegible]~~	~~ACCOUNT CLASSIFICATION CLERK *~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	CLERICAL
	210.382-010	AUDIT CLERK	4 4 3	5	S46	1	249	
	~~[illegible]~~	~~BILLING CONTROL CLERK~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	
	210.382-014	BOOKKEEPER 1	4 4 3	5	S46	1	249	
	210.382-018	BOOKKEEPER 2	4 4 3	4	S46	1	249	
	210.382-030	CLASSIFICATION-CONTROL CLERK	4 3 3	5	S46	1	249	
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	FINANCIAL INSTITUTIONS
	~~[illegible]~~	~~DISTRIBUTION ACCOUNTING CLERK~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	
	~~[illegible]~~	~~FIXED CAPITAL CLERK~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	
	210.382-046	GENERAL-LEDGER BOOKKEEPER	4 4 3	5	S46	1	249	
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	INSURANCE
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	HOTEL & RESTAURANT
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	
	~~[illegible]~~	~~CHART CALCULATOR~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	
	~~[illegible]~~	~~INSURANCE CLERK 2~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~1~~	~~[illegible]~~	

INSTRUCTIONS

11. Using the list of three-digit Occupational Group Arrangements (OGA) found on pages xxxvi-xli of the fourth edition DOT or in an appendix within the VPO, look up the title of each OGA code which is associated with the occupations remaining on Worksheet #1. Write the titles down in Workspace 1 opposite the appropriate code number.

EXPLANATION

The OGA is the primary method used in the DOT for classifying approximately 20,000 occupations into 559 categories, division and groups. The OGA code is contained in the first three digits of the DOT occupational code and gives basic information about factors held in common by the group of occupations whose code numbers begin with the same three digits. *In the example*, the first OGA is 210 which stands for the group of occupations which are listed as "bookkeepers and bookkeeping machine operators."

Workspace 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE	4th EDITION TITLE	GED R.M.L	SVP	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Workspace 2
BOOKKEEPERS/ MACHINE OPERATORS	[illegible]	~~ACCOUNT-INFORMATION CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	LIGHT, HEAT & POWER
	[illegible]	~~INSURANCE CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	MEDICAL SERVICES
	[illegible]	~~ACCOUNT-CLASSIFICATION CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	CLERICAL
BILLING/RATE CLERKS	210.382-010	AUDIT CLERK	4 4 3	5	S46	I	249	
	[illegible]	~~BILLING-CONTROL CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	
	210.382-014	BOOKKEEPER 1	4 4 3	5	S46	I	249	
	210.382-018	BOOKKEEPER 2	4 4 3	4	S46	I	249	
	210.382-030	CLASSIFICATION-CONTROL CLERK	4 3 3	5	S46	I	249	
	[illegible]	~~COMMODITY-LOAN CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	FINANCIAL INSTITUTIONS
	[illegible]	~~DISTRIBUTION-ACCOUNTING CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	
	[illegible]	~~FIXED-CAPITAL CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	
	210.382-046	GENERAL-LEDGER BOOKKEEPER	4 4 3	5	S46	I	249	
	[illegible]	~~MEDICAL-VOUCHER CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	INSURANCE
	[illegible]	~~MORTGAGE-LOAN COMPUTATION CLRK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	
ACCOUNTING/ STATISTICAL CLERKS	[illegible]	~~NIGHT AUDITOR~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	HOTEL & RESTAURANT
	[illegible]	~~RECONCILEMENT CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	
	[illegible]	~~CHART CALCULATOR~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	
INTERVIEWING CLERKS	[illegible]	~~DIVIDEND-DEPOSIT-VOUCHER CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	
	[illegible]	~~INSURANCE CLERK 2~~	[illegible]	[illegible]	[illegible]	~~I~~	[illegible]	

INSTRUCTIONS

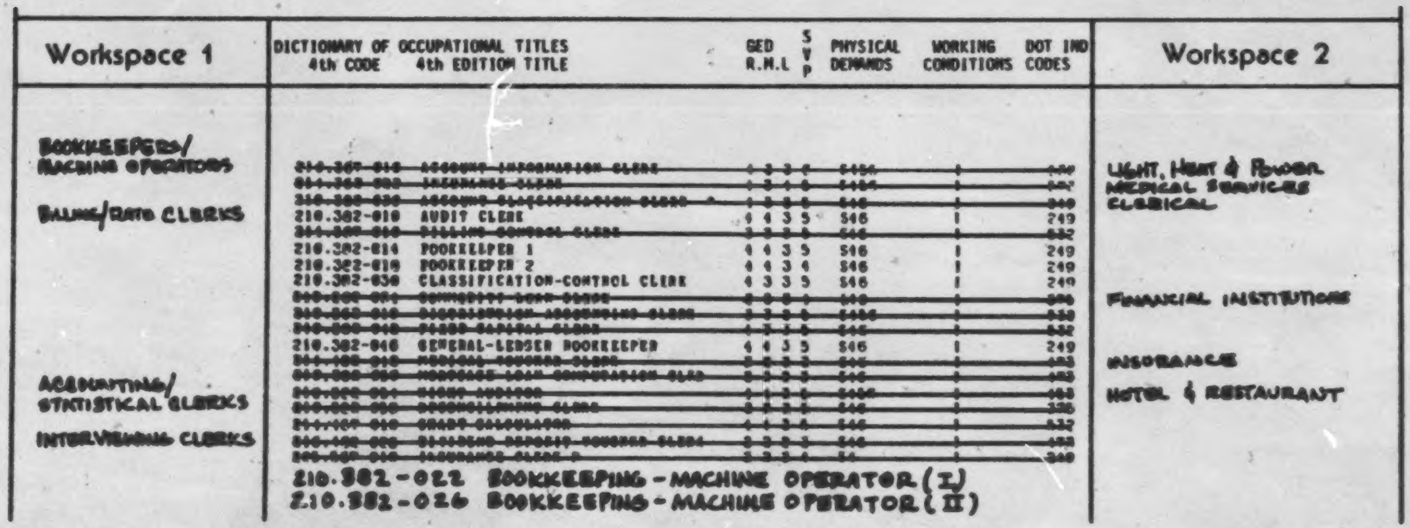
12. Add any additional occupations at the bottom of Worksheet #1 that may be appropriate to the program in question. Make copies of any DOT definitions that are added.

EXPLANATION

Since most occupations remaining on Worksheet #1 began with OGA 210, *in this example*, the Task Analyst searched through the section of the DOT which contained the occupational definitions beginning with that OGA. By reading these occupational definitions, the Task Analyst determined that Bookkeeping Machine Operators (I) and Bookkeeping Machine Operators (II) were appropriate to the Bookkeeping Program and therefore, added these occupations to Worksheet #1.

Other ways to identify additional occupations to add to Worksheet #1 are to use your knowledge of your student's placement history, Advisory Committee input, etc. At the back of the fourth edition DOT are listings which show occupations alphabetically and by Industry Designation which may help to correctly identify the codes and titles of any occupations you may want to add to the list.

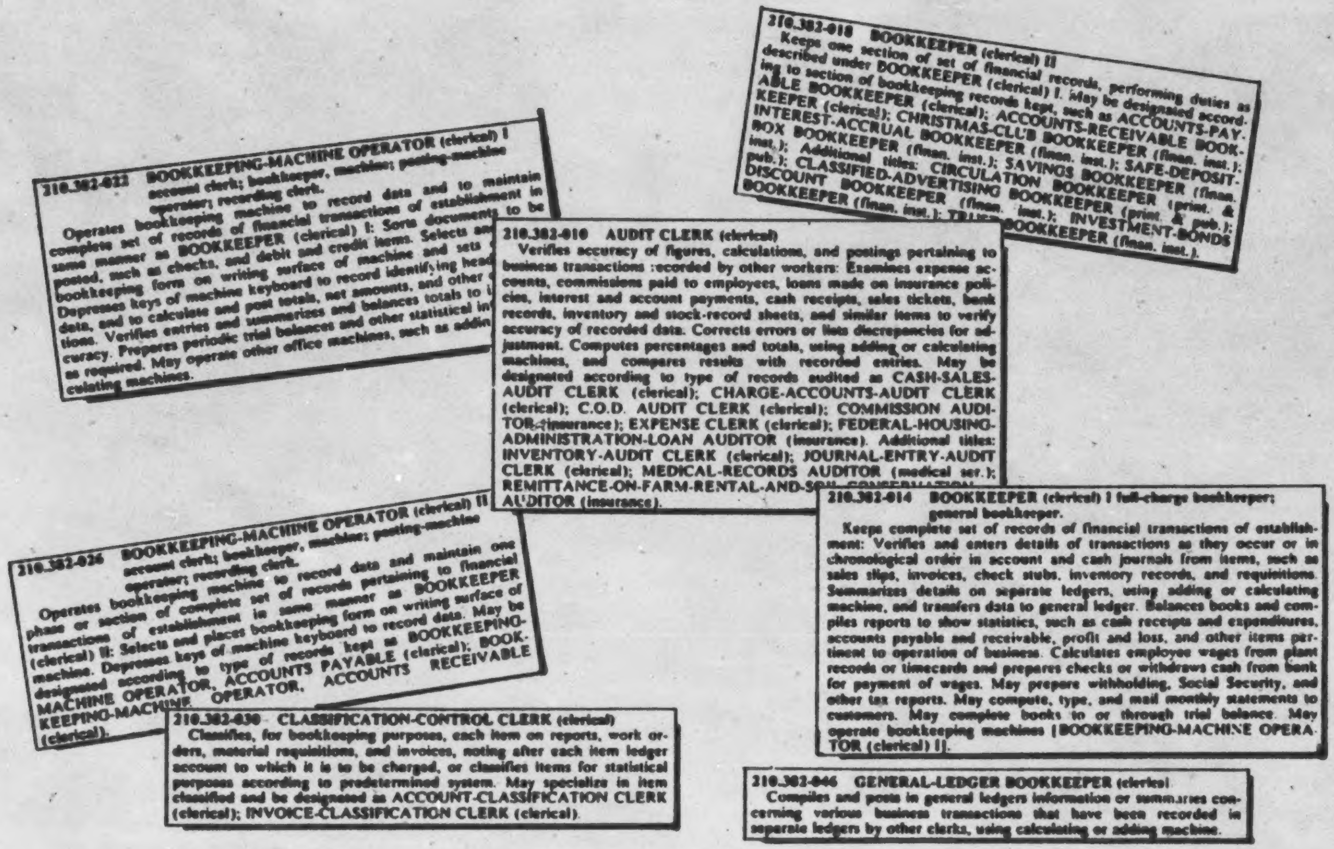
NOTE: The supplementary codes GED, SVP, Physical Demands, Working Conditions, and DOT Industry, will not be available for occupations which are added to the list in this manner. (For in-depth explanation of these codes, see the VPO.)



Workspace 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE	4th EDITION TITLE	GED R.M.L	SVP	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Workspace 2
BOOKKEEPERS/ MACHINE OPERATORS	~~[illegible]~~	~~[illegible]~~						LIGHT, HEAT & POWER MEDICAL SERVICES CLERICAL
	~~[illegible]~~	~~[illegible]~~						
	~~[illegible]~~	~~[illegible]~~						
BILLING/RATE CLERKS	210.382-010	AUDIT CLERK	4 4 3	5	S46	I	249	
	~~[illegible]~~	~~[illegible]~~						
	210.382-014	BOOKKEEPER 1	4 4 3	5	S46	I	249	
	210.382-018	BOOKKEEPER 2	4 4 3	4	S46	I	249	
	210.382-030	CLASSIFICATION-CONTROL CLERK	4 3 3	5	S46	I	249	
	~~[illegible]~~	~~[illegible]~~						FINANCIAL INSTITUTIONS
	~~[illegible]~~	~~[illegible]~~						
	~~[illegible]~~	~~[illegible]~~						
	210.382-046	GENERAL-LEDGER BOOKKEEPER	4 4 3	5	S46	I	249	
	~~[illegible]~~	~~[illegible]~~						INSURANCE
	~~[illegible]~~	~~[illegible]~~						
ACCOUNTING/ STATISTICAL CLERKS	~~[illegible]~~	~~[illegible]~~						HOTEL & RESTAURANT
	~~[illegible]~~	~~[illegible]~~						
	~~[illegible]~~	~~[illegible]~~						
INTERVIEWING CLERKS	~~[illegible]~~	~~[illegible]~~						
	~~[illegible]~~	~~[illegible]~~						
	210.382-022	BOOKKEEPING-MACHINE OPERATOR (I)						
	210.382-026	BOOKKEEPING-MACHINE OPERATOR (II)						

INSTRUCTIONS

13. Be sure you now have Xeroxed copies of the descriptions of each of the occupational outcomes of your program including those you have just added. These will be used in filling out Worksheet #2.



210.382-018 BOOKKEEPER (clerical) II

Keeps one section of set of financial records, performing duties as described under BOOKKEEPER (clerical) I. May be designated according to section of bookkeeping records kept, such as ACCOUNTS-PAYABLE BOOKKEEPER (clerical); ACCOUNTS-RECEIVABLE BOOKKEEPER (clerical); CHRISTMAS-CLUB BOOKKEEPER (finan. inst.); INTEREST-ACCRUAL BOOKKEEPER (finan. inst.); SAFE-DEPOSIT-BOX BOOKKEEPER (finan. inst.); SAVINGS BOOKKEEPER (finan. inst.); Additional titles: CIRCULATION BOOKKEEPER (print. & pub.); CLASSIFIED-ADVERTISING BOOKKEEPER (print. & pub.); DISCOUNT BOOKKEEPER (finan. inst.); INVESTMENT-BONDS BOOKKEEPER (finan. inst.); TRU BOOKKEEPER (finan. inst.).

210.382-022 BOOKKEEPING-MACHINE OPERATOR (clerical) I account clerk; bookkeeper, machine; posting-machine operator; recording clerk.

Operates bookkeeping machine to record data and to maintain
complete set of records of financial transactions of establishment in
same manner as BOOKKEEPER (clerical) I: Sorts documents to be
posted, such as checks, and debit and credit items. Selects an
bookkeeping form on writing surface of machine and sets
Depresses keys of machine keyboard to record identifying head
data, and to calculate and post totals, net amounts, and other
tions. Verifies entries and summarizes and balances totals to
curacy. Prepares periodic trial balances and other statistical in
as required. May operate other office machines, such as addin
culating machines.

210.382-010 AUDIT CLERK (clerical)

Verifies accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers: Examines expense accounts, commissions paid to employees, loans made on insurance policies, interest and account payments, cash receipts, sales tickets, bank records, inventory and stock-record sheets, and similar items to verify accuracy of recorded data. Corrects errors or lists discrepancies for adjustment. Computes percentages and totals, using adding or calculating machines, and compares results with recorded entries. May be designated according to type of records audited as CASH-SALES-AUDIT CLERK (clerical); CHARGE-ACCOUNTS-AUDIT CLERK (clerical); C.O.D. AUDIT CLERK (clerical); COMMISSION AUDITOR (insurance); EXPENSE CLERK (clerical); FEDERAL-HOUSING-ADMINISTRATION-LOAN AUDITOR (insurance). Additional titles: INVENTORY-AUDIT CLERK (clerical); JOURNAL-ENTRY-AUDIT CLERK (clerical); MEDICAL-RECORDS AUDITOR (medical ser.); REMITTANCE-ON-FARM-RENTAL-AND-SOIL-CONSERVATION AUDITOR (insurance).

210.382-014 BOOKKEEPER (clerical) I full-charge bookkeeper; general bookkeeper.

Keeps complete set of records of financial transactions of establishment: Verifies and enters details of transactions as they occur or in chronological order in account and cash journals from items, such as sales slips, invoices, check stubs, inventory records, and requisitions. Summarizes details on separate ledgers, using adding or calculating machine, and transfers data to general ledger. Balances books and compiles reports to show statistics, such as cash receipts and expenditures, accounts payable and receivable, profit and loss, and other items pertinent to operation of business. Calculates employee wages from plant records or timecards and prepares checks or withdraws cash from bank for payment of wages. May prepare withholding, Social Security, and other tax reports. May compute, type, and mail monthly statements to customers. May complete books to or through trial balance. May operate bookkeeping machines [BOOKKEEPING-MACHINE OPERATOR (clerical) I].

210.382-026 BOOKKEEPING-MACHINE OPERATOR (clerical) II account clerk; bookkeeper, machine; posting-machine operator; recording clerk.

Operates bookkeeping machine to record data and maintain one phase or section of complete set of records pertaining to financial transactions of establishment in same manner as BOOKKEEPER (clerical) II: Selects and places bookkeeping form on writing surface of machine. Depresses keys of machine keyboard to record data. May be designated according to type of records kept as BOOKKEEPING-MACHINE OPERATOR, ACCOUNTS PAYABLE (clerical); BOOKKEEPING-MACHINE OPERATOR, ACCOUNTS RECEIVABLE (clerical).

210.382-030 CLASSIFICATION-CONTROL CLERK (clerical)

Classifies, for bookkeeping purposes, each item on reports, work orders, material requisitions, and invoices, noting after each item ledger account to which it is to be charged, or classifies items for statistical purposes according to predetermined system. May specialize in item classified and be designated as ACCOUNT-CLASSIFICATION CLERK (clerical); INVOICE-CLASSIFICATION CLERK (clerical).

210.382-046 GENERAL-LEDGER BOOKKEEPER (clerical)

Compiles and posts in general ledgers information or summaries concerning various business transactions that have been recorded in separate ledgers by other clerks, using calculating or adding machine.

INSTRUCTIONS

NOTE: This step is to be used by those who are designing programs for special purposes, e.g., handicapped, learning disabled, etc.

14. By using the DOT subcodes, eliminate occupations which are inappropriate for your special target population.

EXPLANATION

Each fourth edition DOT code has been assigned a series of subcodes which provide additional information about the coded occupations. These subcodes include General Education Development (GED), Specific Vocational Preparation (SVP), Physical Demands, and Working Conditions. These subcodes, although not used in the task analysis of every program, can be used effectively in designing programs for special purposes or target populations. For example, when designing programs for handicapped students, the physical demands and working conditions designations should be used to pinpoint occupations which are suitable or not suitable for these special populations. The Physical Demands subcodes (546) associated with 210.382-014 Bookkeeper I indicates that sight is necessary to perform the tasks required for this occupation and therefore, this occupation could not be an achievable outcome for a blind student population. At this point, you should eliminate this occupation from Worksheet #1 if you are designing a program for a sightless student population. The Working Conditions code can be used and interpreted in the same manner as the Physical Demands code.

The GED and SVP codes are complementary components which can provide an indication of the average period of time (education and/or experience) necessary for satisfactory performance of any given occupation. The GED is divided into three levels: reasoning development (R); mathematics development (M); and, language development (L). The SVP rating indicates the estimated amount of time required to reach average performance as a fully qualified worker on a job. For example, Bookkeeper I requires a GED level of 4(R), 4(M), and 3(L) and an SVP of 5. This should be interpreted to mean that a worker who already possesses these

GED levels will typically require six months to a year, at five days a week, eight hours a day, (SVP level 5) of Specific Vocational Preparation to reach average performance on the job. Therefore, if you are designing a program for a learning disabled population whose GED level does not equal 4(R), 4(M), 2(L), the Bookkeeper I job may not be an obtainable outcome for those students. In this case, either the occupation should be eliminated from Worksheet #1 or the classroom training time may have to be significantly increased to include prerequisite instruction to increase the student's reasoning, mathematics, and language development to a level in which the occupational tasks can be learned.

Before eliminating any occupations based on DOT subcodes, the VPO should be read carefully to insure that the basic concepts and applications of these codes are fully understood.

Page 1 of 1

OCCUPATIONAL OUTCOME (DOT) SELECTION

Task Analysis Worksheet 1

USOE PROGRAM 14.010200 BOOKKEEPERS

PROGRAMS CONCERNED WITH COMPUTING, CLASSIFYING, AND RECORDING NUMERICAL DATA TO KEEP FINANCIAL RECORDS.

Workspace 1

BOOKKEEPERS/
MACHINE OPERATORS

BILLING/RATE CLERKS

ACCOUNTING/
STATISTICAL CLERKS

INTERVIEWING CLERKS

DICTIONARY OF OCCUPATIONAL TITLES 4th CODE	4th EDITION TITLE	GED R.M.L	SVP	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES
~~210.367-010~~	~~ACCOUNT-INFORMATION CLERK~~	~~4 3 3~~	~~5~~	~~S456~~	~~I~~	[illegible]
~~214.362-022~~	~~INSURANCE CLERK~~	~~4 3 4~~	~~5~~	~~S456~~	~~I~~	[illegible]
~~210.382-030~~	~~ACCOUNT-CLASSIFICATION CLERK~~	~~4 3 3~~	~~5~~	~~S46~~	~~I~~	~~249~~
210.382-010	AUDIT CLERK	4 4 3	5	S46	I	249
~~214.387-010~~	~~BILLING-CONTROL CLERK~~	~~3 3 3~~	~~5~~	~~S46~~	~~I~~	~~532~~
210.382-014	BOOKKEEPER 1	4 4 3	5	S46	I	249
210.382-018	BOOKKEEPER 2	4 4 3	4	S46	I	249
210.382-030	CLASSIFICATION-CONTROL CLERK	4 3 3	5	S46	I	249
[illegible]	~~COMMODITY-LOAN CLERK~~	[illegible]	[illegible]	~~S46~~	~~I~~	[illegible]
~~216.362-018~~	~~DISTRIBUTION-ACCOUNTING CLERK~~	~~3 3 3~~	~~5~~	~~S456~~	~~I~~	~~532~~
[illegible]	~~FIXED-CAPITAL CLERK~~	~~4 3 4~~	~~5~~	~~S46~~	~~I~~	~~532~~
210.382-046	GENERAL-LEDGER BOOKKEEPER	4 4 3	5	S46	I	249
[illegible]	~~MEDICAL-VOUCHER CLERK~~	[illegible]	[illegible]	[illegible]	~~I~~	~~473~~
[illegible]	~~MORTGAGE-LOAN-COMPUTATION CLER~~	~~3 3 3~~	~~3~~	~~S46~~	~~I~~	~~493~~
[illegible]	~~NIGHT AUDITOR~~	~~4 4 3~~	~~5~~	~~S456~~	~~I~~	[illegible]
[illegible]	~~RECONCILEMENT CLERK~~	~~3 3 3~~	~~4~~	~~S46~~	~~I~~	~~326~~
~~214.467-010~~	~~CHART CALCULATOR~~	~~4 4 3~~	~~5~~	~~S46~~	~~I~~	~~532~~
[illegible]	~~DIVIDEND-DEPOSIT-VOUCHER CLERK~~	~~3 3 3~~	~~3~~	~~S46~~	~~I~~	~~473~~
[illegible]	~~INSURANCE CLERK 2~~	~~3 3 3~~	~~4~~	~~S4~~	~~I~~	~~249~~

210.382-022 BOOKKEEPING-MACHINE OPERATOR (I)
210.382-026 BOOKKEEPING-MACHINE OPERATOR (II)

Workspace 2

LIGHT, HEAT & POWER
MEDICAL SERVICES
CLERICAL

FINANCIAL INSTITUTIONS

INSURANCE
HOTEL & RESTAURANT

ALTERNATE METHODOLOGY FOR WORKSHEET #1

NOTE: If you have been able to complete Worksheet #1 based on the instructions provided, you should proceed directly to Section II, page 37 of this publication. This section contains an alternate methodology for completing Worksheet #1 when one or more of the following situations occurs:

1) the VEO publication, rather than the VPO, is utilized;
2) neither the VPO nor VEO is used; or
3) program descriptors in the VEO or VPO at the ".99" level ("other"), do not adequately define your program.

The TAP has been developed to utilize the Vocational Preparation and Occupation (VPO). The VPO contains all current United States Office of Education (USOE) program codes and links these with the fourth edition DOT codes, DOT subcodes, and other classification systems such as Census, OES, and SOC codes. At present, the VPO is the only document which displays these relationships and therefore it is a very valuable and useful tool for incorporation in the process. The purpose of this section, however, is to provide an alternative methodology for the TAP when the VPO is not available or when the USOE program codes contained in the VPO do not adequately define the instructional program you wish to analyze.

Use of the Vocational Education and Occupations (VEO) rather than the VPO:
Like the VPO, the VEO contains USOE program codes; however, unlike the VPO the VEO associates these USOE codes with third edition, rather than fourth edition DOT codes and titles. In addition, DOT subcodes such as DOT Industry, GED, SVP, etc., are not displayed in the VEO. Since fourth edition DOT codes contain the most up-to-date occupational definitions, use of the VEO in the TAP will require that third edition DOT codes are converted to fourth edition DOT codes. A conversion table has been prepared by the United States Department of Labor, Employment and Training Administration and is entitled Conversion Table of Code and Title Changes Third to Fourth Edition Dictionary of Occupational Titles. You should obtain this publication for using the VEO for the TAP. (For ordering information, see page 9 of this publication.) After obtaining this publication, complete the following steps:

INSTRUCTIONS

1. Find the program code and description in the VEO which most accurately defines your program. Make a Xerox copy of the entire page containing the code and descriptor.

U.S. OFFICE OF EDUCATION CLASSIFICATION		DICTIONARY OF OCCUPATIONAL TITLES			
				Worker Trait Groups (Vol. II)	
Code	Instructional program	Code	Occupational Title (Vol. I)	Page	Title
14.01	ACCOUNTING AND COMPUTING OCCUPATIONS Planned learning experiences which include a combination of courses and practical experiences concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.				
14.0101	ACCOUNTANTS Programs concerned with the paraprofessional duties supporting the accountant in organizing, designing, and controlling numerical and financial data.	160.288-010	CREDIT ANALYST, CHIEF (banking)	252	Account., Audit. & Rel. Wk.
		160.288-014	DIRECTOR, UTILITY ACCOUNTS (gov. ser.)	252	" " " " "
		160.288-018	ESTIMATOR (profess. & kin.)	383	Indust. Engr. & Rel. Wk.
		160.288-022	LISTER (woodworking)	383	" " " " "
14.0102	BOOKKEEPERS Programs concerned with computing, classifying, and recording numerical data to keep financial records.	210.368-010	ACCOUNT-INFORMATION CLERK (light, heat, & power)	258	Info. Gather., Dispens., & Rel.
		210.368-014	INSURANCE CLERK (medical ser.)	258	" " " " "
		210.388-010	ACCOUNT-CLASSIFICATION CLERK (clerical)	280	Comput. & Rel. Record.
		210.388-014	AUDIT CLERK (clerical)	280	" " " "
		210.388-018	BILLING CONTROL CLERK (light, heat, & power)	280	" " " "
		210.388-022	BOOKKEEPER (clerical) I	280	" " " "
		210.388-026	BOOKKEEPER (clerical) II	280	" " " "
		210.388-030	CLASSIFICATION-CONTROL CLERK (clerical)	280	" " " "
		210.388-034	COMMODITY-LOAN CLERK (banking)	280	" " " "
		210.388-038	DISTRIBUTION ACCOUNTING CLERK (light, heat, & power)	280	" " " "
		210.388-042	FIXED-CAPITAL CLERK (light, heat, & power)	280	" " " "
		210.388-046	GENERAL-LEDGER BOOKKEEPER (clerical)	280	" " " "
		210.388-050	MEDICAL-VOUCHER CLERK (insurance)	280	" " " "
		210.388-054	MORTGAGE-LOAN-COMPUTATION CLERK (insurance)	280	" " " "
		210.388-058	NIGHT AUDITOR (hotel & rest.)	280	" " " "
		210.388-062	RECONCILEMENT CLERK (banking)	280	" " " "
		210.488-010	CHART CALCULATOR (light, heat, & power)	280	" " " "
		210.488-014	DIVIDEND-DEPOSIT-VOUCHER QUOTER (insurance)	280	" " " "
		210.588-010	INSURANCE CLERK (clerical) II	289	Routine Check. & Record.

INSTRUCTIONS

2. From the copy, cut out the USOE code number and descriptor and paste it on Worksheet #1, Section A.

3. Check the descriptor to see that it adequately portrays your program. If it does not, add or delete information.

4. Cut from the Xerox copy the column of third edition DOT codes which has been associated with that program. Paste it in Section B of Worksheet #1.

Page __ of __ OCCUPATIONAL OUTCOME (DOT) SELECTION Task Analysis Worksheet 1

14.0102	**BOOKKEEPERS** Programs concerned with computing, classifying, and recording numerical data to keep financial records.

Workspace 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE	4th EDITION TITLE	GED R.M.L	SVP	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Workspace 2
	210.368-010							
	210.368-014							
	210.388-010							
	210.388-014							
	210.388-018							
	210.388-022							
	210.388-026							
	210.388-030							
	210.388-034							
	210.388-038							
	210.388-042							
	210.388-046							
	210.388-050							
	210.388-054							
	210.388-058							
	210.388-062							
	210.488-010							
	210.488-014							
	210.588-010							

5. By using the conversion tables publication, convert each third edition DOT code to its fourth edition equivalent. Enter the fourth edition DOT code and title next to the third edition DOT code in Section B of Worksheet #1.

e 1	DICTIONARY OF 4th CODE	OCCUPATIONAL TITLES 4th EDITION TITLE		GED R.M.L	S V P	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Wc
	210.368-010	210·367-010	ACCOUNT-INFORMATION CLERK						
	210.368-014	214.362-022	INSURANCE CLERK						
	210.388-010	210.382-030	ACCOUNT-CLASSIFICATION CLERK						
	210.388-014	210·382-010	AUDIT CLERK						
	210.388-018	214. 387-010	BILLING CONTROL CLERK						
	210.388-022	210. 382-014	BOOKKEEPER 1						
	210.388-026	210·382-018	BOOKKEEPER 2						
	210.388-030	210·382-080	CLASSIFICATION CONTROL CLERK						
	210.388-034	210·382-034	COMMODITY-LOAN CLERK						
	210.388-038	210·362-010	DISTRIBUTION ACCOUNTING CLERK						
	210.388-042	210.382-042	FIXED CAPITAL CLERK						
	210.388-046	210.382-046	GENERAL LEDGER BOOKKEEPER						
	210.388-050	214.482-018	MEDICAL-VOUCHER CLERK						
	210.388-054	210.382-050	MORTGAGE LOAN COMPUTATION CLERK						
	210.388-058	210. 382-054	NIGHT AUDITOR						
	210.388-062	210· 382-058	RECONCILEMENT CLERK						
	210.488-010	214 · 487-010	CHART CALCULATOR						
	210.488-014	216.482-026	DIVIDEND-DEPOSIT-VOUCHER CLERK						
	210.588-010	205.567-010	INSURANCE CLERK 2						

6. Make a Xerox copy of each fourth edition DOT code that you have listed on Worksheet #1.

7. Eliminate any inappropriate occupations from Worksheet #1 by drawing a line through them. Eliminations can be based on one or more of the following methods:
   a) industrial composition and/or local labor market needs of your geographical area, (page 21 of this publication describes possible sources of information);
   b) Advisory Committee input;
   c) knowledge of student placement history; and,
   d) a reading of the DOT definitions themselves.

e 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE		4th EDITION TITLE	GED R.M.L	SVP	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Wc
	~~210.368-010~~	~~210.367-010~~	~~ACCOUNT INFORMATION CLERK~~						
	~~210.368-014~~	~~214.362-022~~	~~INSURANCE CLERK~~						
	~~210.388-010~~	~~210.382-030~~	~~ACCOUNT CLASSIFICATION CLERK~~						
	210.388-014	210.382-010	AUDIT CLERK						
	~~210.388-018~~	~~214.387-010~~	~~BILLING CONTROL CLERK~~						
	210.388-022	210.382-014	BOOKKEEPER 1						
	210.388-026	210.382-018	BOOKKEEPER 2						
	210.388-030	210.382-030	CLASSIFICATION CONTROL CLERK						
	~~210.388-034~~	~~210.382-034~~	~~COMMODITY LOAN CLERK~~						
	~~210.388-038~~	~~210.362-010~~	~~DISTRIBUTION ACCOUNTING CLERK~~						
	~~210.388-042~~	~~210.382-042~~	~~FIXED CAPITAL CLERK~~						
	210.388-046	210.382-046	GENERAL LEDGER BOOKKEEPER						
	~~210.388-050~~	~~214.482-018~~	~~MEDICAL VOUCHER CLERK~~						
	~~210.388-054~~	~~210.382-050~~	~~MORTGAGE LOAN COMPUTATION CLERK~~						
	~~210.388-058~~	~~210.382-054~~	~~NIGHT AUDITOR~~						
	~~210.388-062~~	~~210.382-058~~	~~RECONCILEMENT CLERK~~						
	~~210.488-010~~	~~214.487-010~~	~~CHART CALCULATOR~~						
	~~210.488-014~~	~~216.482-026~~	~~DIVIDEND DEPOSIT VOUCHER CLERK~~						
	~~210.588-010~~	~~205.567-010~~	~~INSURANCE CLERK 2~~						

8. Using the OGAs, add any other applicable DOTs to Worksheet #1. See Step 11 for methodology and explanation.

9. Make sure you have a copy of each DOT definition for each occupation remaining on Worksheet #1.

Neither the VPO Nor VEO Used Or Lack of Appropriate USOE Program Descriptors at the ".99" Levels
When neither the VPO nor the VEO is available or the USOE program descriptors (".99" categories only) contained in these publications do not adequately describe your program, it will be necessary to write your own program descriptor and to associate fourth edition DOT occupational codes and titles to the program. Upon completion of this task the following steps are to be taken.

1. Enter the descriptor of your program in Section A of Worksheet #1.
   If you do not already have a specific descriptor for your program, other schools offering similar programs may have a descriptor which adequately defines your program. For example, the program descriptor for 07.0905 Central Supply Technician reads:

   > "A combination of subject matter and experiences designed to prepare a person to adjust, clean, sterilize, and assemble hospital equipment, supplies, and instruments according to prescribed procedures and techniques. Also included in instruction are inspection, evaluation and recommendation for purchase of equipment and materials, and distribution and inventory."

   The names of special tools, equipment, or machines that will be taught as part of the program can also be included in this descriptor.

   NOTE: Specific USOE program descriptors should be used whenever possible. If your program falls under the ".99," "other" categories of the USOE coding structure, and these "other" descriptors do not adequately describe your program, then it will be necessary to write your own descriptors.

2. Enter in Section B of Worksheet #1 the fourth edition DOT codes and titles which are applicable to your program.

   The fourth edition DOT contains both an alphabetical listing of occupational titles, and a listing of occupational titles arranged by industry. Both of these listings can be useful in identifying DOTs applicable to your program. The alphabetical listing contains all fourth edition DOT codes and titles as well as all alternate titles. If you know the specific names of occupations for which your program trains, this listing will provide you with the specific DOT code assigned to it. In addition, glancing through this listing may help you to identify other applicable DOTs. If you do not know the specific names of occupations but do know the industries in which they are found, the listing of occupational titles arranged by industry can be utilized to identify applicable DOTs. As you search through either of these listings, note on a piece of paper any DOT codes and titles which you feel may be applicable to your program. After this initial list is compiled, examine the occupational definitions and enter in Section B of Worksheet #1 the DOT codes and titles which you feel are appropriate to your program.

3. Make a Xerox copy of each fourth edition DOT occupational definition for the occupations listed in Section B of Worksheet #1.

4. Eliminate any occupations which you feel are inappropriate or unlikely outcomes of your program. Elimination can be based on:

   a. Industrial composition or labor market needs of your local geographical area, (page 21 of this publication describes possible sources of information);
   b. Advisory committee input; and
   c. Knowledge of student placement history.

5. Using the OGA add any other appropriate DOTs that you have located. (See page 23 for methodology and explanation.)

6. Make sure you have a copy of the DOT definitions for each occupation remaining on Worksheet #1.

You now have completed Worksheet #1 and can proceed to the instructions on page 37 for completing Worksheet #2.

INTRODUCTION TO WORKSHEET #2
DOT OCCUPATIONAL TASK LIST

By completing Worksheet #1 you now have an accurate list of the occupations (with DOT codes, titles and descriptors) for which the program under analysis is training students. Worksheet #2 provides a method to break down these occupations into the tasks and related skills and knowledges a student should possess upon completing the program. The end result is a complete inventory of the tasks and related skills and knowledges (herein referred to as an occupational task list) needed to build curriculum that directly relates training to the "world of work."

In Step 12 of Worksheet #1, your program's advisory committee was mentioned. This group of advisors is very important to the successful completion of Worksheet #2 because the process of breaking down each occupation into tasks requires expert knowledge. The DOT, which is utilized in this process, is a National publication that cannot take into account the regional differences in the tasks required on a job (i.e., welding may require different task knowledge in Detroit, Michigan, than it does in Long Beach, California, since automobiles are different than ships.) Therefore, it is recommended that your advisory committee be consulted throughout the TAP to insure that the tasks are relevant to the local labor market. In fact, working through the TAP can be an excellent agenda item for the committee's meetings.

While the compilation of an occupational task list for an entire program is a tedious process, it is well worth your effort since, once it is completed, this task list can provide the basis for an ongoing check on program content validity in terms of labor market needs.

Page ___ of ___

DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet **2**

4th Edition DOT Code Number, Title and Descriptor

USOE PROGRAM CODE:

USOE PROGRAM TITLE:

Lead Statement:

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:

Importance of Task to Student's Performance on Occupation

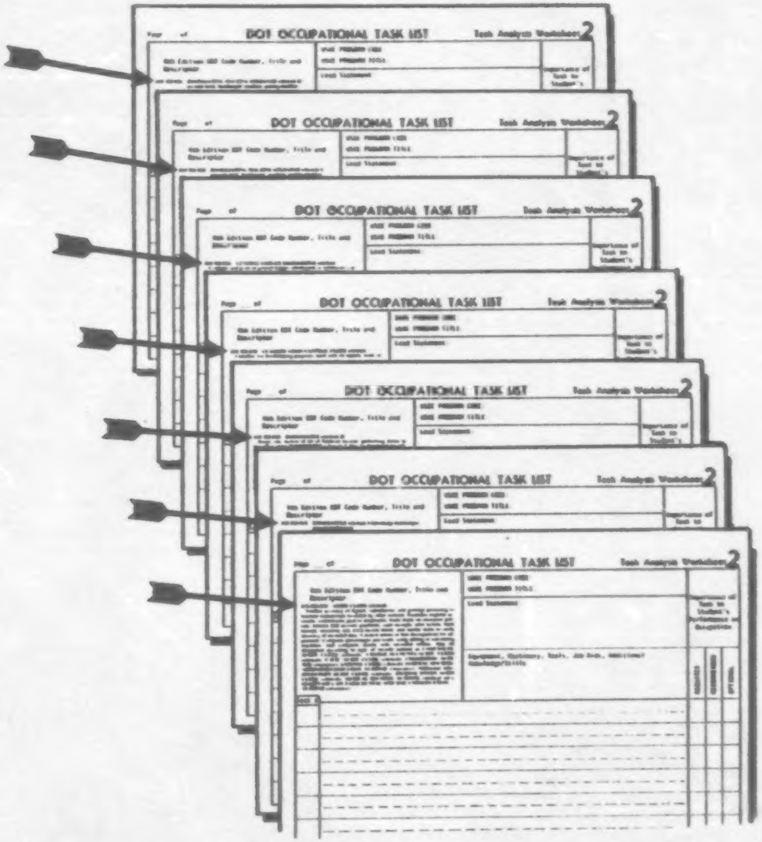
Task #		REQUIRED	RECOMMENDED	OPTIONAL

INSTRUCTIONS

1. Paste a Xeroxed copy of the DOT in the space marked "DOT Code Number, Title and Descriptor."

EXPLANATION

To compile an occupational task list, you will need a separate Worksheet #2 for each DOT listed on Worksheet #1. *In the example*, seven DOTs are listed on Worksheet #1, therefore, seven blank copies of Worksheet #2 are needed.

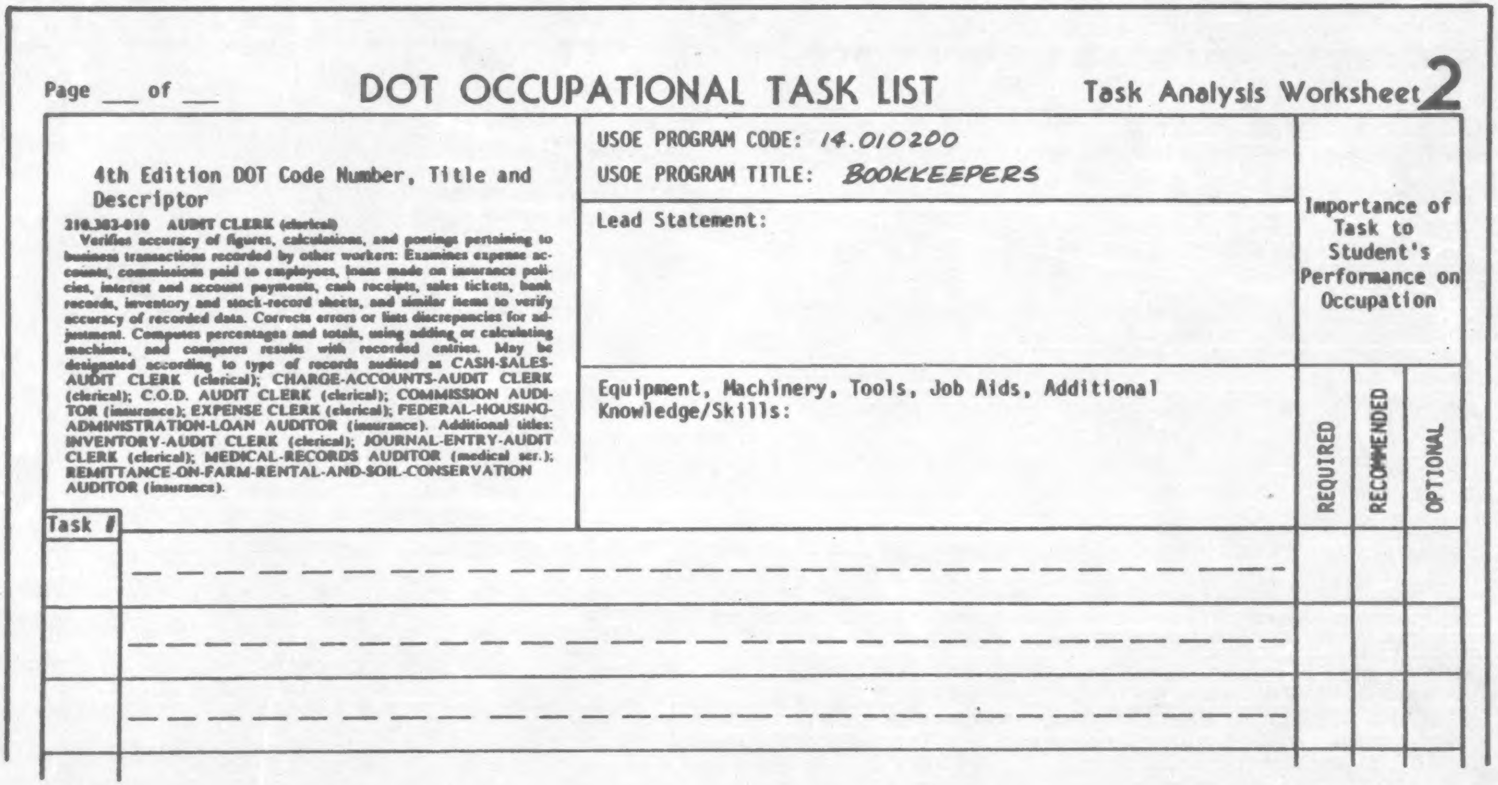

DOT OCCUPATIONAL TASK LIST
Task Analysis Worksheet 2

INSTRUCTIONS

2. Transfer the USOE program code and title from Worksheet #1 to the appropriate space on each Worksheet #2.

EXPLANATION

Only one of the seven Worksheets (#2) is shown in the sample, although each of the following steps must be completed for each DOT listed on Worksheet #1.



Page ___ of ___

DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet **2**

4th Edition DOT Code Number, Title and Descriptor

210.382-010 AUDIT CLERK (clerical)

Verifies accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers: Examines expense accounts, commissions paid to employees, loans made on insurance policies, interest and account payments, cash receipts, sales tickets, bank records, inventory and stock-record sheets, and similar items to verify accuracy of recorded data. Corrects errors or lists discrepancies for adjustment. Computes percentages and totals, using adding or calculating machines, and compares results with recorded entries. May be designated according to type of records audited as CASH-SALES-AUDIT CLERK (clerical); CHARGE-ACCOUNTS-AUDIT CLERK (clerical); C.O.D. AUDIT CLERK (clerical); COMMISSION AUDITOR (insurance); EXPENSE CLERK (clerical); FEDERAL-HOUSING-ADMINISTRATION-LOAN AUDITOR (insurance). Additional titles: INVENTORY-AUDIT CLERK (clerical); JOURNAL-ENTRY-AUDIT CLERK (clerical); MEDICAL-RECORDS AUDITOR (medical ser.); REMITTANCE-ON-FARM-RENTAL-AND-SOIL-CONSERVATION AUDITOR (insurance).

USOE PROGRAM CODE: 14.010200

USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement:

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL

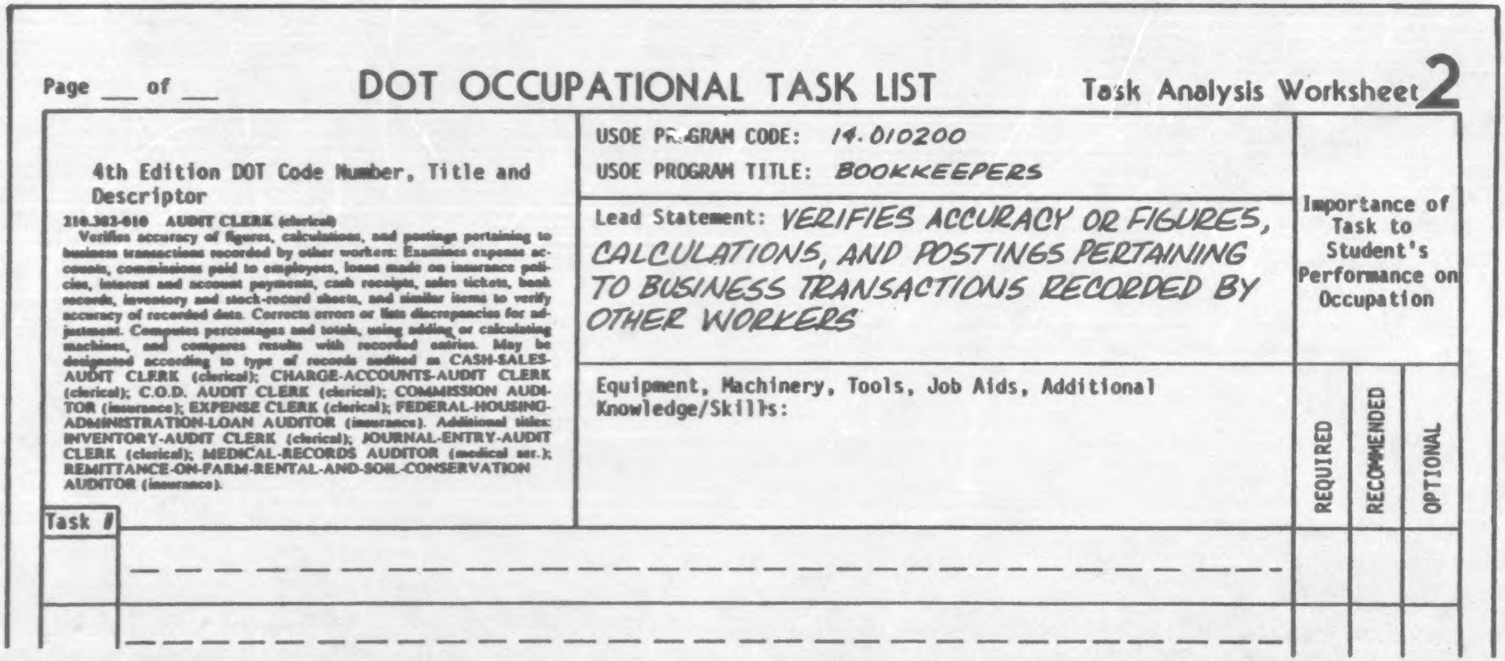
INSTRUCTIONS

3. Copy the Lead Statement into the space provided.

EXPLANATION

The first sentence of a DOT descriptor following the industry designation and alternate titles (if any) is known as the Lead Statement. It is follwed by a colon (:). The Lead Statement summarizes the entire occupation. It offers essential information such as:

- worker actions
- the objectives or purpose of the worker actions
- machines, tools, equipment, or work aids used by the worker
- materials used, products made, subject matter dealt with, or service rendered
- instructions followed or judgments made



Page ___ of ___

DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet **2**

4th Edition DOT Code Number, Title and Descriptor

210.382-010 AUDIT CLERK (clerical)

Verifies accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers: Examines expense accounts, commissions paid to employees, loans made on insurance policies, interest and account payments, cash receipts, sales tickets, bank records, inventory and stock-record sheets, and similar items to verify accuracy of recorded data. Corrects errors or lists discrepancies for adjustment. Computes percentages and totals, using adding or calculating machines, and compares results with recorded entries. May be designated according to type of records audited as CASH-SALES-AUDIT CLERK (clerical); CHARGE-ACCOUNTS-AUDIT CLERK (clerical); C.O.D. AUDIT CLERK (clerical); COMMISSION AUDITOR (insurance); EXPENSE CLERK (clerical); FEDERAL-HOUSING-ADMINISTRATION-LOAN AUDITOR (insurance). Additional titles: INVENTORY-AUDIT CLERK (clerical); JOURNAL-ENTRY-AUDIT CLERK (clerical); MEDICAL-RECORDS AUDITOR (medical ser.); REMITTANCE-ON-FARM-RENTAL-AND-SOIL-CONSERVATION AUDITOR (insurance).

USOE PROGRAM CODE: 14.010200

USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement: VERIFIES ACCURACY OR FIGURES, CALCULATIONS, AND POSTINGS PERTAINING TO BUSINESS TRANSACTIONS RECORDED BY OTHER WORKERS

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL

INSTRUCTIONS

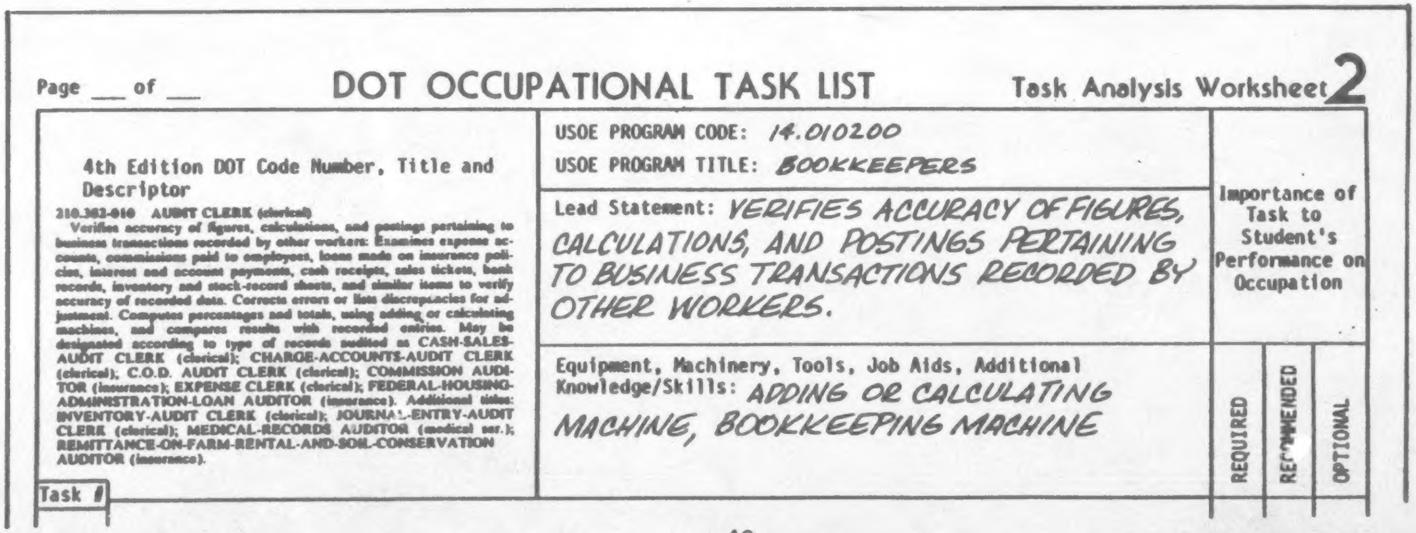
4. Extract from the Xeroxed description any equipment, machinery, etc. which is mentioned and list it in the space provided. Add any additional information which you know about from personal experience and/or advisory committee input.

EXPLANATION

The ability to use certain types of equipment and/or the possession of additional knowledges and skills not listed in the DOT definition is often mandatory to the successful performance on a job. It is very important, therefore, to complete this step as thoroughly as possible.

The Glossary on pp. 947-963 of the fourth edition DOT defines all words which appear in italics in the descriptors. These are usually technical vocabulary not known to the general public. These italicized words often describe special equipment or supplies used on the job.

In the example, the Analyst felt that it was important that students know how to operate a bookkeeping machine. Therefore, this piece of equipment was listed in the space provided. No italicized words were used in the DOTs which make up the occupational outcomes of the Bookkeeping Program in the example.



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DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet 2

4th Edition DOT Code Number, Title and Descriptor

210.382-010 AUDIT CLERK (clerical)

Verifies accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers: Examines expense accounts, commissions paid to employees, loans made on insurance policies, interest and account payments, cash receipts, sales tickets, bank records, inventory and stock-record sheets, and similar items to verify accuracy of recorded data. Corrects errors or lists discrepancies for adjustment. Computes percentages and totals, using adding or calculating machines, and compares results with recorded entries. May be designated according to type of records audited as CASH-SALES-AUDIT CLERK (clerical); CHARGE-ACCOUNTS-AUDIT CLERK (clerical); C.O.D. AUDIT CLERK (clerical); COMMISSION AUDITOR (insurance); EXPENSE CLERK (clerical); FEDERAL-HOUSING-ADMINISTRATION-LOAN AUDITOR (insurance). Additional titles: INVENTORY-AUDIT CLERK (clerical); JOURNAL-ENTRY-AUDIT CLERK (clerical); MEDICAL-RECORDS AUDITOR (medical ser.); REMITTANCE-ON-FARM-RENTAL-AND-SOIL-CONSERVATION AUDITOR (insurance).

Task #

USOE PROGRAM CODE: 14.010200

USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement: VERIFIES ACCURACY OF FIGURES, CALCULATIONS, AND POSTINGS PERTAINING TO BUSINESS TRANSACTIONS RECORDED BY OTHER WORKERS.

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills: ADDING OR CALCULATING MACHINE, BOOKKEEPING MACHINE

Importance of Task to Student's Performance on Occupation

REQUIRED	RECOMMENDED	OPTIONAL

INSTRUCTIONS

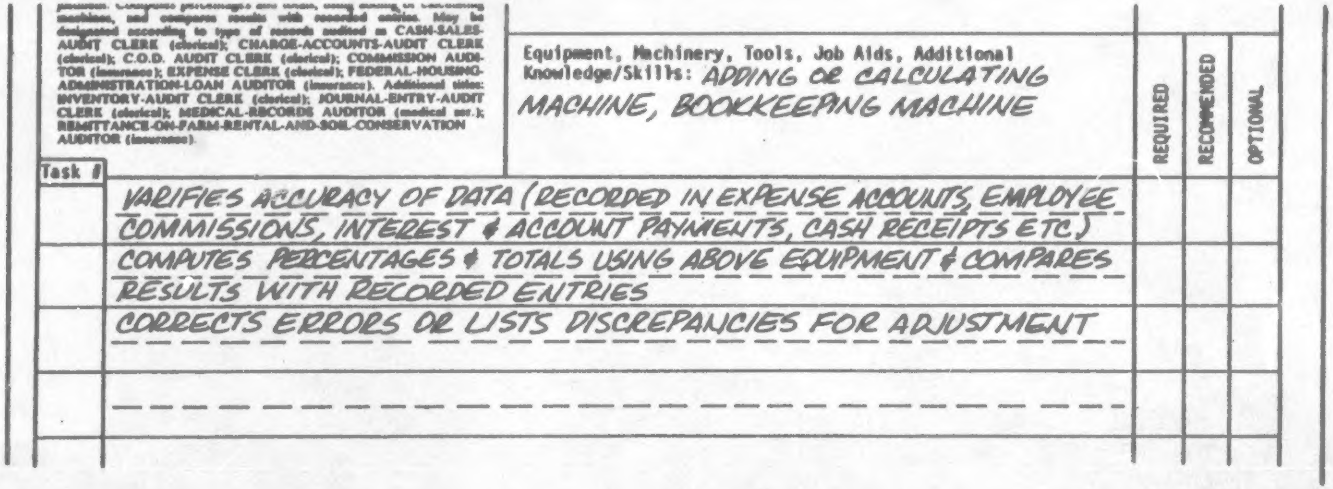
5. List each task mentioned in the DOT descriptor either verbatim or in your own words in the space provided.

EXPLANATION

Task statements indicate the specific tasks the worker performs to accomplish the overall job purpose described in the Lead Statement. For example, "Verifies accuracy...," "Computes percentages...," etc. are tasks statements that indicate how the worker actually carries out his or her duties.

The task statements in the DOT definition which begin with the word "May" describe duties required of workers in one establishment but not in others. The word "May" does not indicate that a worker will sometimes perform a task but rather that some workers in different establishments generally perform one of the varied tasks listed. All "May" statements should be included on Worksheet #2 unless those tasks are not performed by workers in the industries/businesses of your local geographical area.

Occasionally, two or more tasks occurring in a single descriptor are so closely related that they may be combined into one. On the other hand, two tasks may appear in a single sentence in the DOT definitions, which are quite distinct and should be listed separately on Worksheet #2.



machines, and compares results with recorded entries. May be designated according to type of records audited as CASH-SALES-AUDIT CLERK (clerical); CHARGE-ACCOUNTS-AUDIT CLERK (clerical); C.O.D. AUDIT CLERK (clerical); COMMISSION AUDITOR (insurance); EXPENSE CLERK (clerical); FEDERAL-HOUSING-ADMINISTRATION-LOAN AUDITOR (insurance). Additional titles: INVENTORY-AUDIT CLERK (clerical); JOURNAL-ENTRY-AUDIT CLERK (clerical); MEDICAL-RECORDS AUDITOR (medical ser.); REMITTANCE-ON-FARM-RENTAL-AND-SOIL-CONSERVATION AUDITOR (insurance).

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills: ADDING OR CALCULATING MACHINE, BOOKKEEPING MACHINE

Task #		REQUIRED	RECOMMENDED	OPTIONAL
	VARIFIES ACCURACY OF DATA (RECORDED IN EXPENSE ACCOUNTS, EMPLOYEE COMMISSIONS, INTEREST & ACCOUNT PAYMENTS, CASH RECEIPTS ETC.)			
	COMPUTES PERCENTAGES & TOTALS USING ABOVE EQUIPMENT & COMPARES RESULTS WITH RECORDED ENTRIES			
	CORRECTS ERRORS OR LISTS DISCREPANCIES FOR ADJUSTMENT			

INSTRUCTIONS

6. Add any other tasks which workers perform on the job based on personal experience and/or advisory committee input.

EXPLANATION

In the example, the Task Analyst added the last two tasks (single/double entry bookkeeping and reading financial statements) based on information provided by the advisory committee.

designated according to type of records audited as CASH-SALES-AUDIT CLERK (clerical); CHARGE-ACCOUNTS-AUDIT CLERK (clerical); C.O.D. AUDIT CLERK (clerical); COMMISSION AUDITOR (insurance); EXPENSE CLERK (clerical); FEDERAL-HOUSING-ADMINISTRATION-LOAN AUDITOR (insurance). Additional titles: INVENTORY-AUDIT CLERK (clerical); JOURNAL-ENTRY-AUDIT CLERK (clerical); MEDICAL-RECORDS AUDITOR (medical ser.); REMITTANCE-ON-FARM-RENTAL-AND-SOIL-CONSERVATION AUDITOR (insurance).

Task #	Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills: ADDING OR CALCULATING MACHINE, BOOKKEEPING MACHINE	REQUIRED	RECOMMENDED	OPTIONAL
	VERIFIES ACCURACY OF DATA (RECORDED IN EXPENSE ACCOUNTS, EMPLOYEE COMMISSIONS, INTEREST & ACCOUNT PAYMENTS, CASH RECEIPTS ETC.)			
	COMPUTES PERCENTAGES & TOTALS USING ABOVE EQUIPMENT & COMPARES RESULTS WITH RECORDED ENTRIES.			
	CORRECTS ERRORS OR LISTS DISCREPANCIES FOR ADJUSTMENT.			
	KNOWS SIMILARITIES/DIFFERENCES OF SINGLE & DOUBLE ENTRY BOOKKEEPING & CAN SET UP BASIC LEDGERS FOR EACH TYPE.			
	CAN READ AND INTERPRET SIMPLE FINANCIAL STATEMENTS.			

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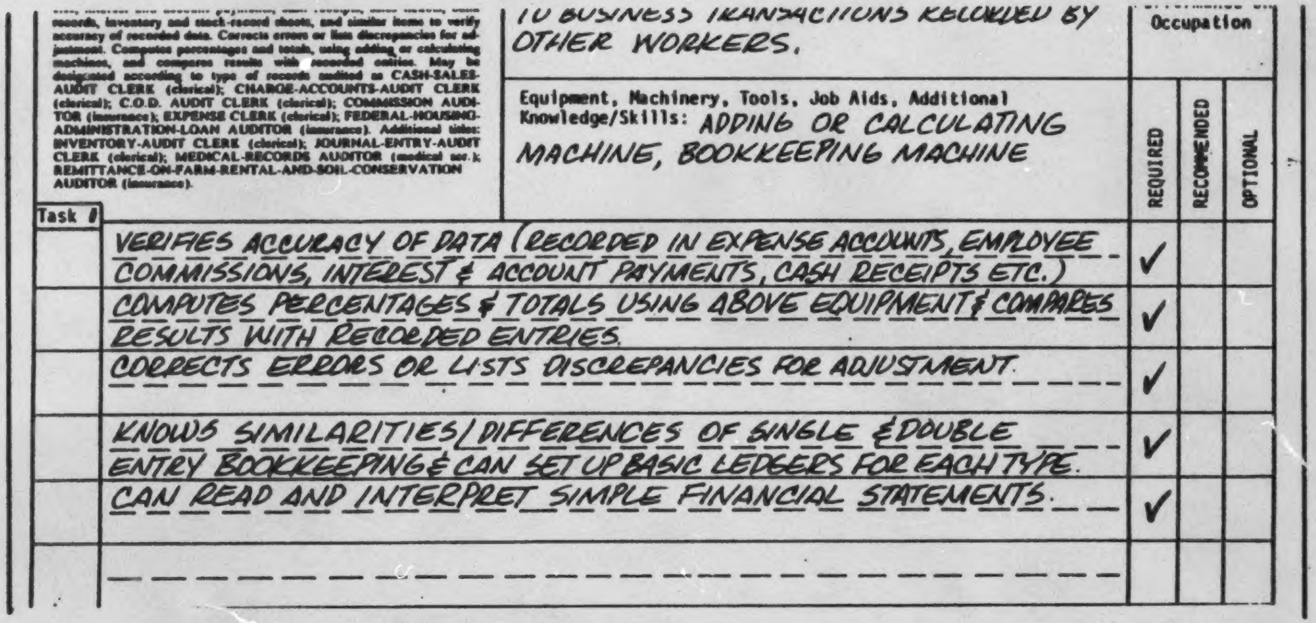
INSTRUCTIONS

7. Using all available sources of information, mark, in the spaces provided, whether the task is required, recommended or optional in relationship to a worker's performance on the job.

EXPLANATION

Sources may include, but are not limited to: personal experience and/or knowledge, faculty experience and/or knowledge, the program's advisory committee, other employees in the field, etc. The accuracy of this ranking is important since it will be a crucial factor in the grouping of tasks into courses.

In the example below, the Task Analyst, using all available sources of information, has determined that all of the tasks listed are required for successful performance of the job.



records, inventory and stock-record sheets, and similar items to verify accuracy of recorded data. Corrects errors or lists discrepancies for adjustment. Computes percentages and totals, using adding or calculating machines, and compares results with recorded entries. May be designated according to type of records audited as CASH-SALES-AUDIT CLERK (clerical); CHARGE-ACCOUNTS-AUDIT CLERK (clerical); C.O.D. AUDIT CLERK (clerical); COMMISSION AUDITOR (insurance); EXPENSE CLERK (clerical); FEDERAL-HOUSING-ADMINISTRATION-LOAN AUDITOR (insurance). Additional titles: INVENTORY-AUDIT CLERK (clerical); JOURNAL-ENTRY-AUDIT CLERK (clerical); MEDICAL-RECORDS AUDITOR (medical ser.); REMITTANCE-ON-FARM-RENTAL-AND-SOIL-CONSERVATION AUDITOR (insurance).

TO BUSINESS TRANSACTIONS RECORDED BY OTHER WORKERS.

Occupation

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills: ADDING OR CALCULATING MACHINE, BOOKKEEPING MACHINE

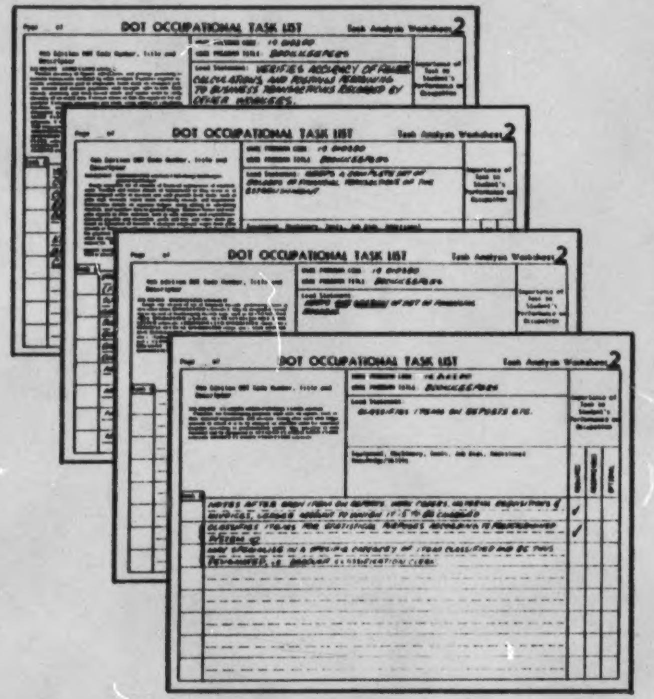
Task #		REQUIRED	RECOMMENDED	OPTIONAL
	VERIFIES ACCURACY OF DATA (RECORDED IN EXPENSE ACCOUNTS, EMPLOYEE COMMISSIONS, INTEREST & ACCOUNT PAYMENTS, CASH RECEIPTS ETC.)	✓		
	COMPUTES PERCENTAGES & TOTALS USING ABOVE EQUIPMENT & COMPARES RESULTS WITH RECORDED ENTRIES.	✓		
	CORRECTS ERRORS OR LISTS DISCREPANCIES FOR ADJUSTMENT.	✓		
	KNOWS SIMILARITIES/DIFFERENCES OF SINGLE & DOUBLE ENTRY BOOKKEEPING & CAN SET UP BASIC LEDGERS FOR EACH TYPE.	✓		
	CAN READ AND INTERPRET SIMPLE FINANCIAL STATEMENTS.	✓		

INSTRUCTIONS

8. Perform instructions 1 to 7 for each DOT listed on Worksheet #1. Use a separate Worksheet #2 for each DOT.

EXPLANATION

Although you may find several similar or identical tasks which occur repeatedly in different DOT descriptors, list them separately each time they appear. There will be a method for combining them as they are grouped into course competencies on Worksheet #3.


DOT OCCUPATIONAL TASK LIST
Task Analysis Worksheet 2

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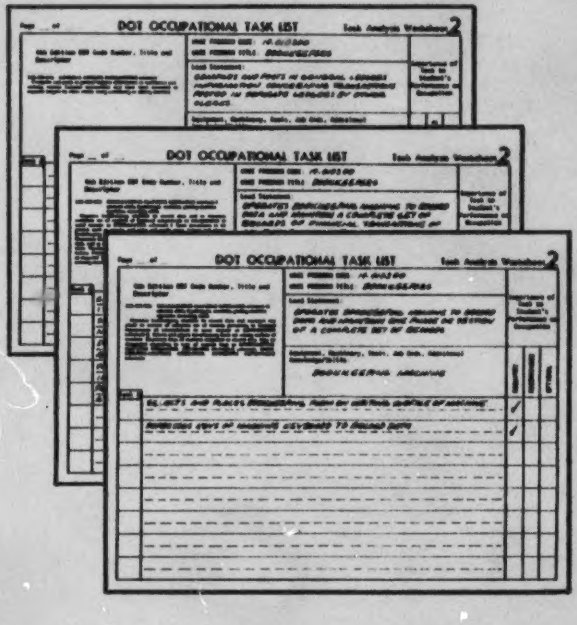

DOT OCCUPATIONAL TASK LIST
Task Analysis Worksheet 2

99

INSTRUCTIONS

9. Assemble all #2 Worksheets so that closely related occupations are grouped together.

EXPLANATION

There are a variety of ways in which to group occupations including, but not limited to the following:

1. the types of machinery, tools, and equipment used;
2. the tasks performed on the job;
3. where the work is performed; and
4. the materials, products or services involved.

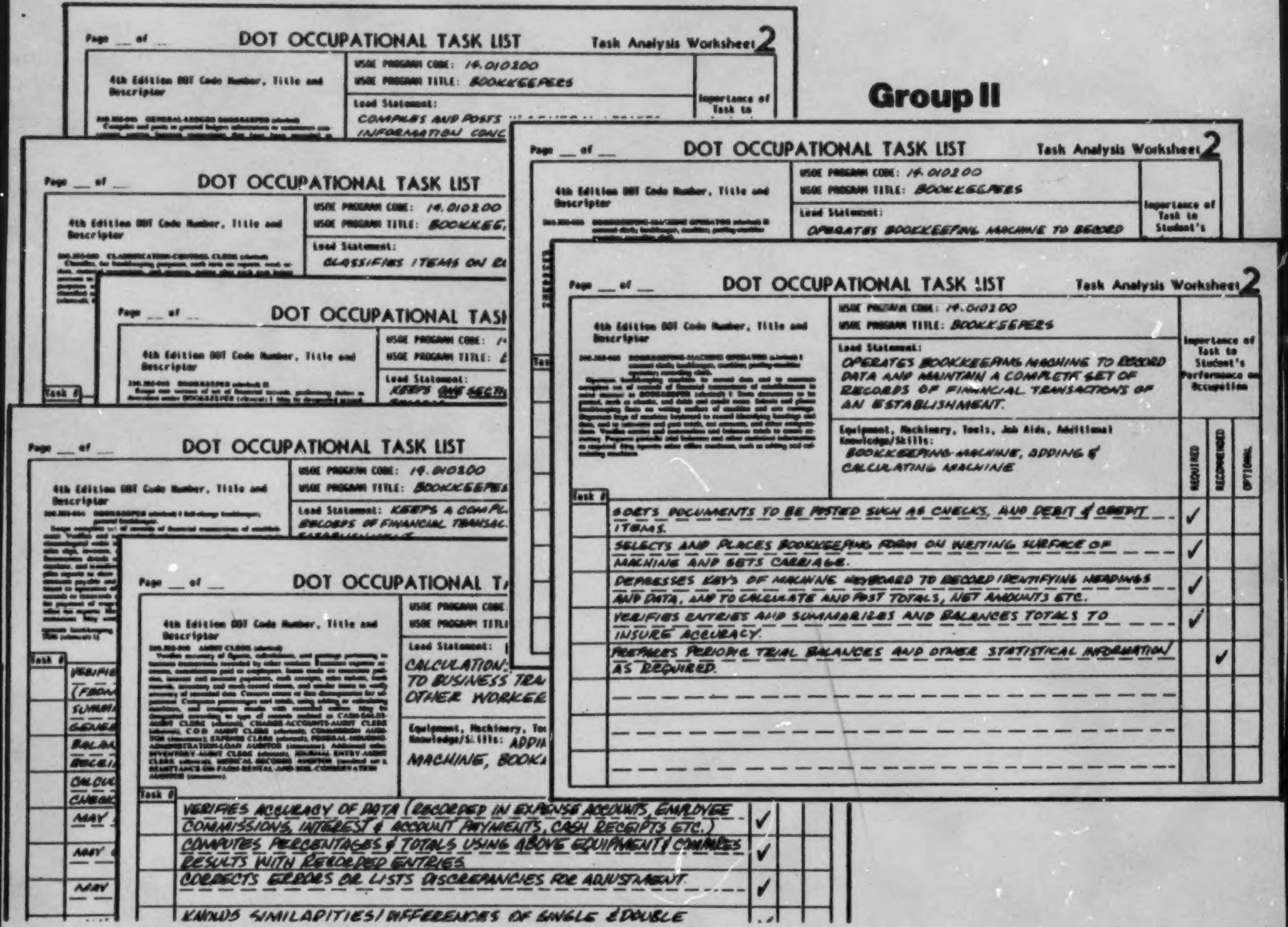
In this example, the Task Analyst determined that there were two distinct groups of occupations based on the tasks performed:

1. Group I contained occupations concerned with the performance of bookkeeping tasks (posting of transactions, verification of data, etc.) and included Audit Clerk, Bookkeeper I, Bookkeeper II, Classification Control Clerk, and General Ledger Bookkeeper.
2. Group II contained occupations involving the operation of bookkeeping machines and included Bookkeeping Machine Operator I and Bookkeeping Machine Operator II.

See example next page.

Group I

Group II



Page __ of __ DOT OCCUPATIONAL TASK LIST Task Analysis Worksheet 2

USOE PROGRAM CODE: 14.010200
USOE PROGRAM TITLE: BOOKKEEPERS

4th Edition DOT Code Number, Title and Descriptor

Lead Statement:
OPERATES BOOKKEEPING MACHINE TO RECORD DATA AND MAINTAIN A COMPLETE SET OF RECORDS OF FINANCIAL TRANSACTIONS OF AN ESTABLISHMENT.

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:
BOOKKEEPING MACHINE, ADDING & CALCULATING MACHINE

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL
	SORTS DOCUMENTS TO BE POSTED SUCH AS CHECKS, AND DEBIT & CREDIT ITEMS.	✓		
	SELECTS AND PLACES BOOKKEEPING FORM ON WRITING SURFACE OF MACHINE AND SETS CARRIAGE.	✓		
	DEPRESSES KEYS OF MACHINE KEYBOARD TO RECORD IDENTIFYING HEADINGS AND DATA, AND TO CALCULATE AND POST TOTALS, NET AMOUNTS ETC.	✓		
	VERIFIES ENTRIES AND SUMMARIZES AND BALANCES TOTALS TO INSURE ACCURACY.	✓		
	PREPARES PERIODIC TRIAL BALANCES AND OTHER STATISTICAL INFORMATION AS REQUIRED.		✓	

Page __ of __ DOT OCCUPATIONAL TASK LIST

4th Edition DOT Code Number, Title and Descriptor

Lead Statement:
CALCULATION: ... TO BUSINESS TRA... OTHER WORKER...

Equipment, Machinery, Tools... Knowledge/Skills: ADDI... MACHINE, BOOK...

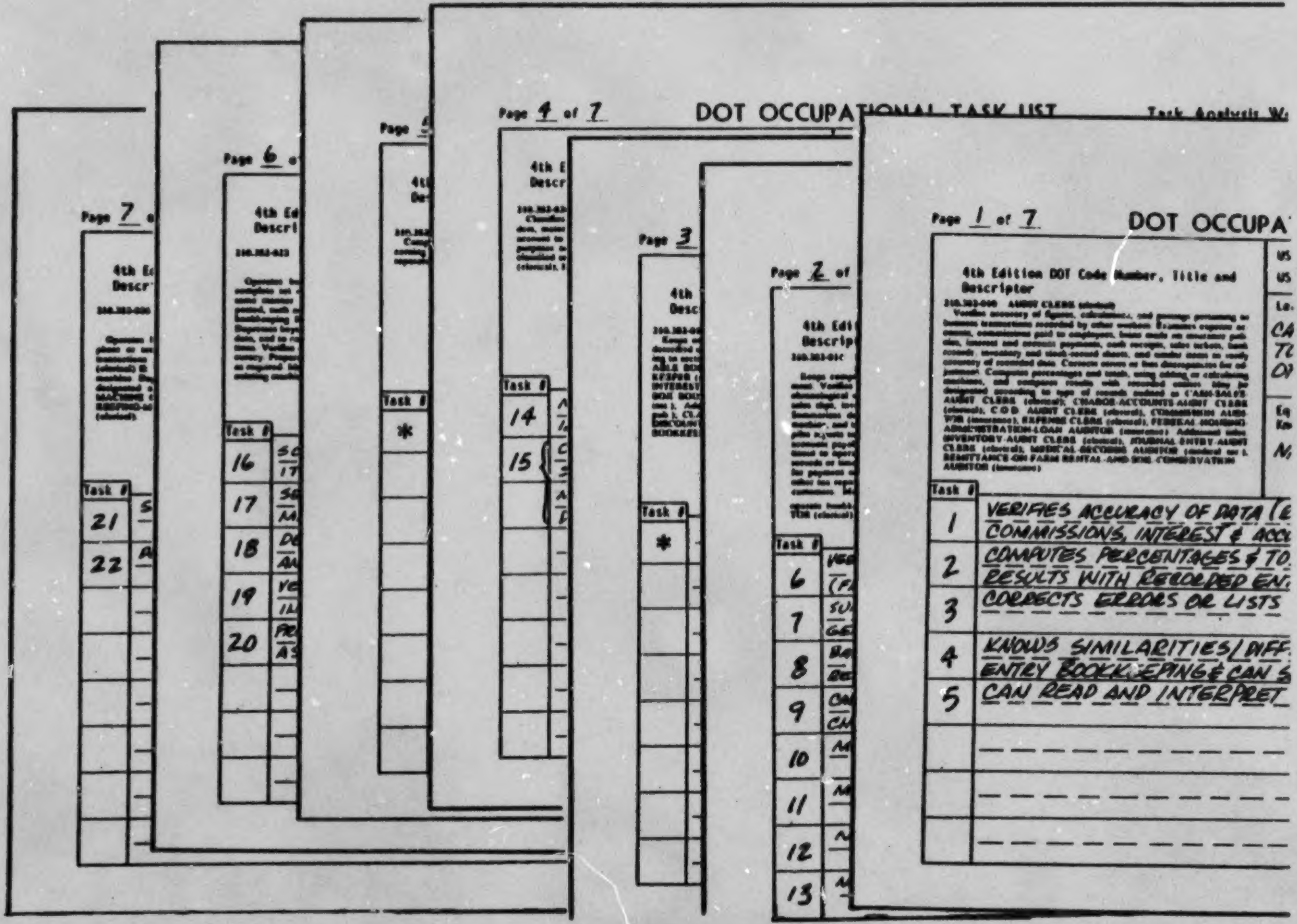
Task #				
	VERIFIES ACCURACY OF DATA (RECORDED IN EXPENSE ACCOUNTS, EMPLOYEE COMMISSIONS, INTEREST & ACCOUNT PAYMENTS, CASH RECEIPTS ETC.)	✓		
	COMPUTES PERCENTAGES & TOTALS USING ABOVE EQUIPMENT & COMPARES RESULTS WITH RECORDED ENTRIES.	✓		
	CORRECTS ERRORS OR LISTS DISCREPANCIES FOR ADJUSTMENT.	✓		
	KNOWS SIMILARITIES/DIFFERENCES OF SINGLE & DOUBLE			

INSTRUCTIONS

10. Beginning with the first worksheet in Group I, number sequentially ALL the tasks which you've listed so that every task has a unique number. Use the column entitled Task # for this purpose.

EXPLANATION

In the example, there are 22 tasks associated with the performance of a bookkeeper.



Page 7
Task #
21
22
Page 6
Task #
16
17
18
19
20
Task #
*
Page 4 of 7
DOT OCCUPATIONAL TASK LIST
Task Analysis W
Task #
14
15
Page 3
Task #
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Page 2
Task #
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11
12
13

Page 1 of 7 DOT OCCUPA

4th Edition DOT Code Number, Title and Descriptor

Task #	
1	VERIFIES ACCURACY OF DATA (E COMMISSIONS, INTEREST & ACC
2	COMPUTES PERCENTAGES & TO RESULTS WITH RECORDED EN
3	CORRECTS ERRORS OR LISTS
4	KNOWS SIMILARITIES/DIFF ENTRY BOOKKEEPING & CAN S
5	CAN READ AND INTERPRET

* These DOT descriptors list no unique tasks.

Page 1 of 7

DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet 2

4th Edition DOT Code Number, Title and Descriptor

210.382-010 AUDIT CLERK (clerical)

Verifies accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers: Examines expense accounts, commissions paid to employees, loans made on insurance policies, interest and account payments, cash receipts, sales tickets, bank records, inventory and stock-record sheets, and similar items to verify accuracy of recorded data. Corrects errors or lists discrepancies for adjustment. Computes percentages and totals, using adding or calculating machines, and compares results with recorded entries. May be designated according to type of records audited as CASH-SALES-AUDIT CLERK (clerical); CHARGE-ACCOUNTS-AUDIT CLERK (clerical); C.O.D. AUDIT CLERK (clerical); COMMISSION AUDITOR (insurance); EXPENSE CLERK (clerical); FEDERAL-HOUSING-ADMINISTRATION-LOAN AUDITOR (insurance). Additional titles: INVENTORY-AUDIT CLERK (clerical); JOURNAL-ENTRY-AUDIT CLERK (clerical); MEDICAL-RECORDS AUDITOR (medical ser.); REMITTANCE-ON-FARM-RENTAL-AND-SOIL-CONSERVATION AUDITOR (insurance).

USOE PROGRAM CODE: 14.010200

USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement: VERIFIES ACCURACY OF FIGURES, CALCULATIONS, AND POSTINGS PERTAINING TO BUSINESS TRANSACTIONS RECORDED BY OTHER WORKERS.

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills: ADDING OR CALCULATING MACHINE, BOOKKEEPING MACHINE

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL
1	VERIFIES ACCURACY OF DATA (RECORDED IN EXPENSE ACCOUNTS, EMPLOYEE COMMISSIONS, INTEREST & ACCOUNT PAYMENTS, CASH RECEIPTS ETC.)	✓		
2	COMPUTES PERCENTAGES & TOTALS USING ABOVE EQUIPMENT & COMPARES RESULTS WITH RECORDED ENTRIES.	✓		
3	CORRECTS ERRORS OR LISTS DISCREPANCIES FOR ADJUSTMENT	✓		
4	KNOWS SIMILARITIES/DIFFERENCES OF SINGLE & DOUBLE ENTRY BOOKKEEPING & CAN SET UP BASIC LEDGERS FOR EACH TYPE.	✓		
5	CAN READ AND INTERPRET SIMPLE FINANCIAL STATEMENTS.	✓		

Page 2 of 7

DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet 2

4th Edition DOT Code Number, Title and Descriptor

210.382-014 BOOKKEEPER (clerical) I full-charge bookkeeper; general bookkeeper.

Keeps complete set of records of financial transactions of establishment: Verifies and enters details of transactions as they occur or in chronological order in account and cash journals from items, such as sales slips, invoices, check stubs, inventory records, and requisitions. Summarizes details on separate ledgers, using adding or calculating machine, and transfers data to general ledger. Balances books and compiles reports to show statistics, such as cash receipts and expenditures, accounts payable and receivable, profit and loss, and other items pertinent to operation of business. Calculates employee wages from plant records or timecards and prepares checks or withdraws cash from bank for payment of wages. May prepare withholding, Social Security, and other tax reports. May compute, type, and mail monthly statements to customers. May complete books to or through trial balance. May operate bookkeeping machines [BOOKKEEPING-MACHINE OPERATOR (clerical) I].

USOE PROGRAM CODE: 14.010200

USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement: KEEPS A COMPLETE SET OF RECORDS OF FINANCIAL TRANSACTIONS OF THE ESTABLISHMENT.

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills: ADDING OR CALCULATING MACHINE, BOOKKEEPING MACHINE.

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL
6	VERIFIES & ENTERS DETAILS OF TRANSACTIONS ON ACCOUNT & CASH JOURNALS (FROM SALES SLIPS, INVOICES, CHECK STUBS, INVENTORY RECORDS & REQUISITIONS)	✓		
7	SUMMARIZES DETAILS ON SEPARATE LEDGERS AND TRANSFERS DATA TO GENERAL LEDGER.	✓		
8	BALANCES BOOKS AND COMPILES REPORTS (TO SHOW STATISTICS SUCH AS CASH RECEIPTS/EXPENDURES, ACCOUNTS PAYABLE/RECEIVABLE, PROFIT/LOST ETC.)	✓		
9	CALCULATES EMPLOYEE WAGES (FROM PLANT RECORDS/TIME CARDS AND PREPARES CHECKS OR WITHDRAWS CASH FROM BANK FOR PAYMENT OF WAGES.)			
10	MAY PREPARE WITHHOLDING, SOCIAL SECURITY, AND OTHER TAX REPORTS.		✓	
11	MAY COMPUTE, TYPE AND MAIL MONTHLY STATEMENTS TO CUSTOMERS.			✓
12	MAY COMPLETE BOOKS TO OR THROUGH TRIAL BALANCE.		✓	
13	MAY OPERATE BOOKKEEPING MACHINES.			✓

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DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet 2

4th Edition DOT Code Number, Title and Descriptor

210.382-018 BOOKKEEPER (clerical) II

Keeps one section of set of financial records, performing duties as described under BCOKKEEPER (clerical) I. May be designated according to section of bookkeeping records kept, such as ACCOUNTS-PAYABLE BOOKKEEPER (clerical); ACCOUNTS-RECEIVABLE BOOKKEEPER (clerical); CHRISTMAS-CLUB BOOKKEEPER (finan. inst.); INTEREST-ACCRUAL BOOKKEEPER (finan. inst.); SAFE-DEPOSIT-BOX BOOKKEEPER (finan. inst.); SAVINGS BOOKKEEPER (finan. inst.); Additional titles: CIRCULATION BOOKKEEPER (print. & pub.); CLASSIFIED-ADVERTISING BOOKKEEPER (print. & pub.); DISCOUNT BOOKKEEPER (finan. inst.); INVESTMENT-BONDS BOOKKEEPER (finan. inst.); TRUST BOOKKEEPER (finan. inst.).

USOE PROGRAM CODE: 14.010200

USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement: KEEPS ONE SECTION OF SET OF FINANCIAL RECORDS.

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL
*	SEE BOOKKEEPER I 210.382-014			

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DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet 2

4th Edition DOT Code Number, Title and Descriptor

210.382-030 CLASSIFICATION-CONTROL CLERK (clerical)
Classifies, for bookkeeping purposes, each item on reports, work orders, material requisitions, and invoices, noting after each item ledger account to which it is to be charged, or classifies items for statistical purposes according to predetermined system. May specialize in item classified and be designated as ACCOUNT-CLASSIFICATION CLERK (clerical); INVOICE-CLASSIFICATION CLERK (clerical).

USOE PROGRAM CODE: 14.010200
USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement:
CLASSIFIES ITEMS ON REPORTS ETC.

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL
14	NOTES AFTER EACH ITEM ON REPORTS, WORK ORDERS, MATERIAL REQUISITIONS & INVOICES, LEDGER ACCOUNT TO WHICH IT IS TO BE CHARGED.	✓		
15	CLASSIFIES ITEMS FOR STATISTICAL PURPOSES ACCORDING TO PREDETERMINED SYSTEM. or	✓		
	MAY SPECIALIZE IN A SPECIFIC CATEGORY OF ITEM CLASSIFIED AND BE THUS DESIGNATED, i.e. ACCOUNT CLASSIFICATION CLERK			

Page 5 of 7

DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet 2

4th Edition DOT Code Number, Title and Descriptor

210.382-046 GENERAL-LEDGER BOOKKEEPER (clerical)
Compiles and posts in general ledgers information or summaries concerning various business transactions that have been recorded in separate ledgers by other clerks, using calculating or adding machine.

USOE PROGRAM CODE: 14.010200

USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement:

COMPILES AND POSTS IN GENERAL LEDGERS INFORMATION CONCERNING TRANSACTIONS POSTED IN SEPARATE LEDGERS BY OTHER CLERKS.

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:

CALCULATING OR ADDING MACHINE.

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL
*				

Page 6 of 7

DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet 2

4th Edition DOT Code Number, Title and Descriptor

210.382-022 BOOKKEEPING-MACHINE OPERATOR (clerical) I account clerk; bookkeeper, machine; posting-machine operator; recording clerk.

Operates bookkeeping machine to record data and to maintain complete set of records of financial transactions of establishment in same manner as BOOKKEEPER (clerical) I: Sorts documents to be posted, such as checks, and debit and credit items. Selects and places bookkeeping form on writing surface of machine and sets carriage. Depresses keys of machine keyboard to record identifying headings and data, and to calculate and post totals, net amounts, and other computations. Verifies entries and summarizes and balances totals to insure accuracy. Prepares periodic trial balances and other statistical information as required. May operate other office machines, such as adding and calculating machines.

USOE PROGRAM CODE: 14.010200

USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement:

OPERATES BOOKKEEPING MACHINE TO RECORD DATA AND MAINTAIN A COMPLETE SET OF RECORDS OF FINANCIAL TRANSACTIONS OF AN ESTABLISHMENT.

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:

BOOKKEEPING-MACHINE, ADDING & CALCULATING MACHINE.

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL
16	SORTS DOCUMENTS TO BE POSTED SUCH AS CHECKS, AND DEBIT & CREDIT ITEMS.	✓		
17	SELECTS AND PLACES BOOKKEEPING FORM ON WRITING SURFACE OF MACHINE AND SETS CARRIAGE.	✓		
18	DEPRESSES KEYS OF MACHINE KEYBOARD TO RECORD IDENTIFYING HEADINGS AND DATA, AND TO CALCULATE AND POST TOTALS, NET AMOUNTS ETC.	✓		
19	VERIFIES ENTRIES AND SUMMARIZES AND BALANCES TOTALS TO INSURE ACCURACY.	✓		
20	PREPARES PERIODIC TRIAL BALANCES AND OTHER STATISTICAL INFORMATION AS REQUIRED.		✓	

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DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet 2

4th Edition DOT Code Number, Title and Descriptor

210.382-026 **BOOKKEEPING-MACHINE OPERATOR (clerical) II** account clerk; bookkeeper, machine; posting-machine operator; recording clerk.

Operates bookkeeping machine to record data and maintain one phase or section of complete set of records pertaining to financial transactions of establishment in same manner as BOOKKEEPER (clerical) II: Selects and places bookkeeping form on writing surface of machine. Depresses keys of machine keyboard to record data. May be designated according to type of records kept as BOOKKEEPING-MACHINE OPERATOR, ACCOUNTS PAYABLE (clerical); BOOKKEEPING-MACHINE OPERATOR, ACCOUNTS RECEIVABLE (clerical).

USOE PROGRAM CODE: 14.010200

USOE PROGRAM TITLE: BOOKKEEPERS

Lead Statement:

OPERATES BOOKKEEPING MACHINE TO RECORD DATA AND MAINTAIN ONE PHASE OR SECTION OF A COMPLETE SET OF RECORDS.

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:

BOOKKEEPING MACHINE

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL
21	SELECTS AND PLACES BOOKKEEPING FORM ON WRITING SURFACE OF MACHINE.	✓		
22	DEPRESSES KEYS OF MACHINE KEYBOARD TO RECORD DATA.	✓		

INTRODUCTION TO WORKSHEET #3A

The completion of Worksheet #2 provides an inventory of occupational tasks that represent the skills needed to successfully perform in the identified occupations. The next exercise is to group these tasks into courses by utilizing Worksheet #3A. This worksheet will then contain the primary building blocks from which your program content will be constructed.

As mentioned in the General Introduction, the TAP has been designed to assist with 1) the planning of new vocational education opportunities and/or 2) validating the curriculum of ongoing programs.

1. When planning a new program, the Task Analyst may have the freedom to select the composite courses based on the tasks which must be taught. The Analyst should review the following criteria before determining the group of courses which will make up the new program.
   a. Tasks which were determined to be required for successful performance on the job (listed on Worksheet #2) should be grouped into courses which the students will be required to take for program completion. This will insure that students who complete these courses and the program have been taught all the necessary skills to make them competitive for job openings.
   b. Tasks which require the same equipment or involve the same products, services, etc., may be taught in the same course.
   c. Tasks which require a similar group of skills and background knowledge may be taught together, (i.e., all tasks related to keeping records for purposes of payroll may be grouped into a single course known as Payroll Recordkeeping).
   d. Tasks may be broken down into a series of competencies which are progressive, (i.e., adding/subtracting, verification of data accuracy, entry of data into ledger in double entry system) and grouped into courses which are also progressive in nature, Bookkeeping I, Bookkeeping II, and Bookkeeping III.

This is not an exclusive list of the considerations an analyst might use in choosing the courses which comprise a new program. It is intended to demonstrate that, when beginning new programs, it is possible to let the desired occupational outcome of a program dictate its content and composition.

2. When using the TAP to evaluate and/or modify the curriculum of an ongoing program, there are several factors which should be kept in mind when completing Worksheet #3A.

   a. Be sure all the tasks listed on Worksheet #2 as "required" are being taught in courses which the students are required to take for program completion.

   b. As a result of this process, there may be many new tasks that will need to be added to instructional curriculum and therefore, it may be necessary to add these to pre-existing courses or design new course to accommodate them.

NOTE: It is suggested that Worksheet #3A be filled out with pencil rather than ink since the process of grouping tasks into courses is one of trial and error.

Page ___ of ___

TASKS GROUPED INTO COURSES

Task Analysis Worksheet **3A**

USOE PROGRAM CODE AND TITLE: ______________________________
(See Worksheet #1) ______________________________
____
____

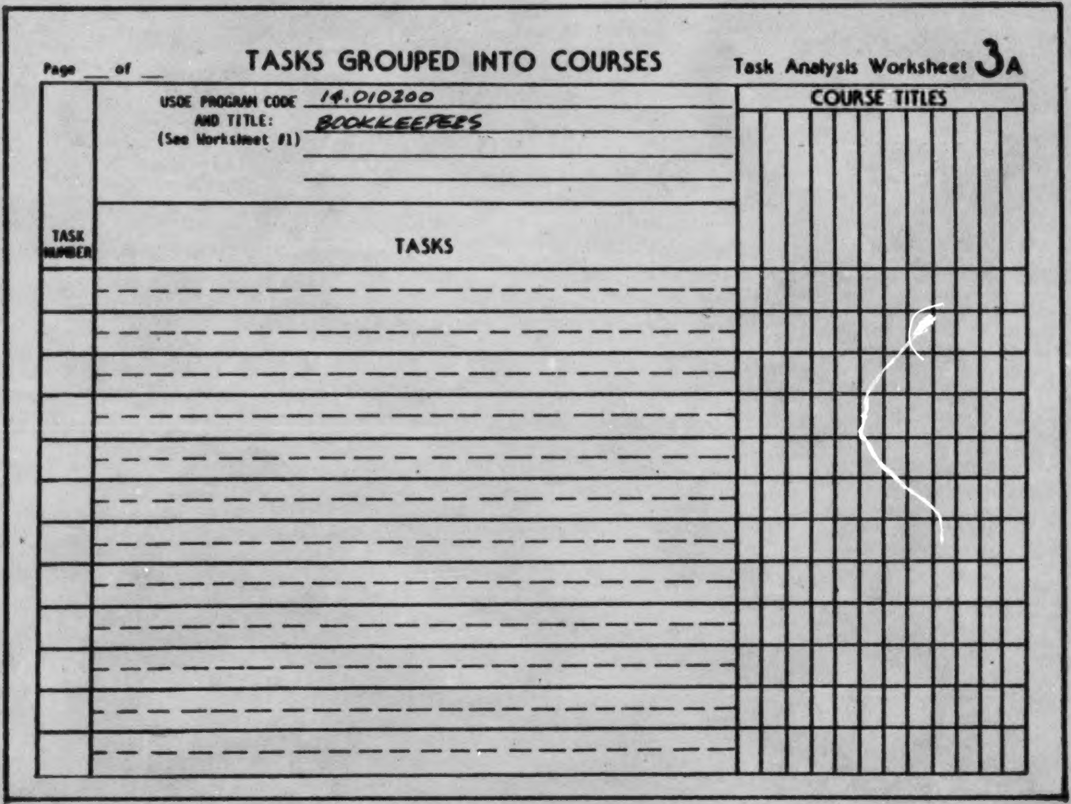
TASK NUMBER	TASKS	COURSE TITLES											
	123										124		

INSTRUCTIONS

1. Transfer the USOE program code and title from Worksheet #1 to the appropriate space on each Worksheet #3A used.

EXPLANATION

To expediate the process and avoid repeating this step later, you may want to prepare at this time several Worksheet #3As in this manner. (The number of Worksheet #3As to be used will be dependent on the number of tasks appearing on Worksheet #2.)



Page __ of __

TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE 14.010200
AND TITLE: BOOKKEEPERS
(See Worksheet #1)

TASK NUMBER

TASKS

COURSE TITLES

INSTRUCTIONS

2. Transfer and sequence the tasks from Worksheet #2 to Worksheet #3A. It is suggested that one or more of the following methods be utilized for sequencing:

   a. Simple to complex;
   b. Frequency of performance;
   c. General to specific;
   d. Interest;
   e. Logical order;
   f. Skill sequencing; and/or
   g. Tools, equipment, machinery, product, and/or service provided

   Although this list is not exhaustive of all sequencing methods available, it does display some of the major methods which are effective for both task and instructional material sequencing. Page 62 contains an explanation of each of these methods.

EXPLANATION

The sequencing of the tasks and the method utilized in this step is important in later developing the actual content of the courses, especially for those who are using this process in developing new instructional programs. (See Appendix A.)

In this example, the Task Analyst decided to use two of these methods to sequence the tasks previously listed on Worksheet #2: simple to complex and equipment used. When reviewing the occupational definitions, the Analyst noticed that there were two distinct groups of occupations: those involving the performance of bookkeeping tasks (i.e., posting of data, etc.) and those involving the operation of bookkeeping machines. Similarly, the tasks also fell into these two broad categories. Therefore, the Analyst decided to list all non-machine tasks first, ordered from the simple to the complex. These tasks would then be followed by machine related tasks, again ordered by level of complexity.

Sequencing Methodology

A. Simple to Complex: Many educators feel that learners achievement is best when s/he progresses from the simple to the complex. Early lessons which teach simple tasks will often produce success which in turn increases the student's confidence. When placed first, complicated lessons are likely to be too difficult, thus increasing the chance of failure.

A difficulty scale may be developed by examining Worksheet #2 and following the procedure given below.

1. Select the task which represents the easiest to learn.
2. Select the task which represents average difficulty.
3. Select the task which represents the most difficult to learn.
4. Place all of the remaining tasks in their respective positions in the scale depending on their learning difficulty.

When large numbers of tasks are involved it may seem that many fall in the same position on the difficulty scale. When this occurs factors other than that of difficulty, such as probability of early use, the frequency of use, task importance, etc., should determine their sequence.

B. Frequency of Performance: By first teaching those skills most often used on the job, a learner who must withdraw for some reason would leave with usable skills rather than only the theory and background leading to skills. Also, if you fail to teach one or two tasks due to a lack of time, the skills the learners will be without are those used least often on the job.[3]

Sequencing by frequency of performance can easily be done by examining Worksheet #2 and with the aid of the advisory committee. Select those tasks which are most frequently used on the job. Then the remaining tasks can be sequenced in order of decreasing usefulness or importance.

C. General to Specific: If you suddenly had to learn how to repair a missile system, would you first want to be taught electronic theory, or would you first want to know what the system does and how it operates? Do you think you could learn to understand the details of automobile repair if you didn't know what a car was? Students often find a course more meaningful when given the overall picture first and then working toward the details. To apply this rule, begin by teaching the student how to operate a machine before you teach him or her how to repair it or before you teach any theory. Teach him/her how something works first, and why it works that way later.[4]

In utilizing this method, examine Worksheet #2 and select the tasks which are most general in nature and enter them on Worksheet #3A. The remaining tasks should be sequenced by increased specificity.

D. Interest: Psycholgists have proven that a person is generally more successful in activities that are relevant and of interest to them. Success in turn tends to stimulate increased interest which speeds up the learning process. By identifying high interest tasks and seeding these among others, the student's motivation and interest can be maintained.[5]

For purposes of the TAP, start by listing a high interest task on line 1 of Worksheet #3A and intersperse the remaining tasks with others of high interest.

E. Logical Order: Sometimes the subject matter dictates that one task be taught before another. For example, one task in the procedure of handling a large machine may be to ensure that the safety catch is locked before starting the motor. If this were placed at the end of the program courses as a final warning, it might already be too late for the learner. If the tasks on Worksheet #2 lend themselves to a logical sequencing, list them in this manner on Worksheet #3A.[6]

F. Skill Sequencing: If a student must leave a course before it is finished it is better to send him/her away with all skills necessary to perform an entry-level occupation than with a series of skills related to a number of occupations. For example: Teach a student everything s/he needs to know to become a qualified clerk typist; then teach what is needed to become a receptionist.[7]

For sequencing in this manner, first list the tasks on Worksheet #3A that teach the skills for an entry-level occupation(s). Then list those tasks that teach the specific skills related to higher level occupations.

G. Tools, Equipment, Machinery, Product, and/or Service Provided: For practical purposes, i.e. limited machinery, equipment, etc.; it is often desirable to teach tasks that require a specific type of equipment in the same course. For example, a student learning about engine repair may want to learn tasks concerned with gas engines in one course while learning all tasks associated with diesel engines in another.

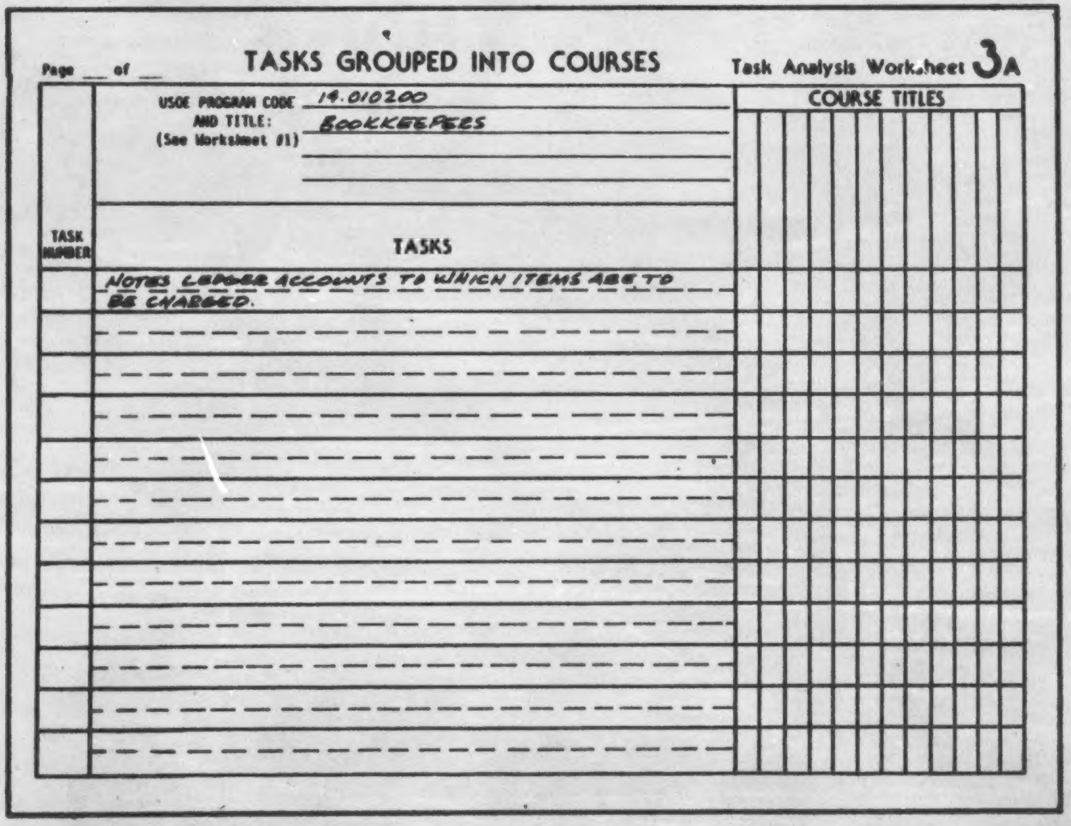
Tasks listed on Worksheet #2 can be grouped and listed by the specific types of equipment, machinery, product, services or tools on Worksheet #3A.

INSTRUCTIONS

3. Copy the task description from Worksheet #2 which, according to the sequencing method(s) chosen, should be listed first on Worksheet #3A.

EXPLANATION

Since the Task Analyst has decided to list all non-machine tasks first, and then order these from the simple to the complex, the Analyst has written "Notes ledger accounts to which items are to be charged." Details may be omitted from task description as *in the example below.*



Page ___ of ___

TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE 14.010200
AND TITLE: BOOKKEEPERS
(See Worksheet #1)

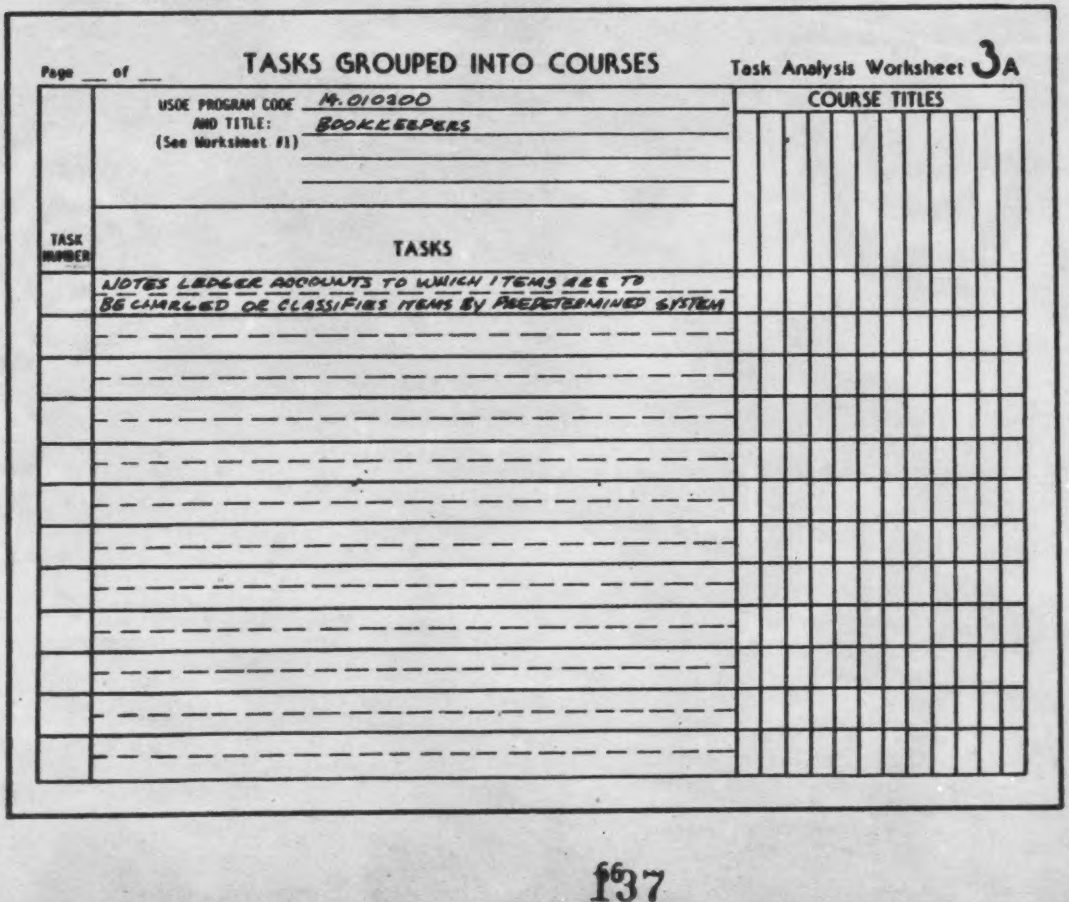
TASK NUMBER	TASKS	COURSE TITLES
	NOTES LEDGER ACCOUNTS TO WHICH ITEMS ARE TO BE CHARGED.	

INSTRUCTIONS

4. If other tasks are similar to the one just listed, combine their descriptions.

EXPLANATION

Be careful that the tasks which you combine are truly similar. Sometimes tasks which are described using similar words are actually different because of the industrial setting in which they occur. *In the example,* the Task Analyst has combined tasks of "noting the ledger accounts" and "classifying items" into a single task since the skills required to do each are very similar.



Page ___ of ___

TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE AND TITLE: (See Worksheet #1) 14.010200 BOOKKEEPERS

TASK NUMBER	TASKS	COURSE TITLES
	NOTES LEDGER ACCOUNTS TO WHICH ITEMS ARE TO BE CHARGED OR CLASSIFIES ITEMS BY PREDETERMINED SYSTEM	

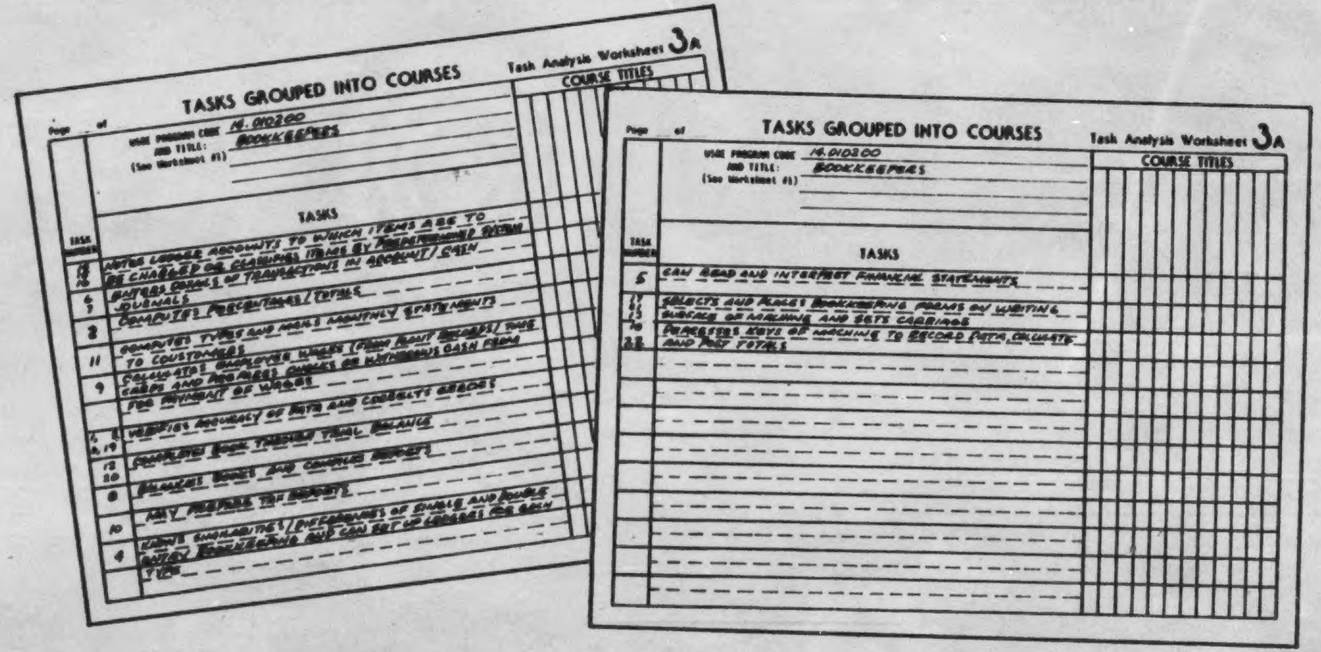
INSTRUCTIONS

5. Record the task number associated with the task descriptor from Worksheet #2 in the column entitled Task # on Worksheet #3A.

EXPLANATION

In the example, the Task Analyst discovered that the task descriptor "notes ledger account and classifies items" was common to three of the occupations being analyzed by noting that it appears three times on Worksheet #2. It was decided that the task would be recorded only once with all three of the task numbers being placed in the column entitled Task #.

In the example, tasks 2, 4, 5, 8, 9, 10, 11 have not been compared with any others while all other tasks have.



TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

Page __ of __

USOE PROGRAM CODE AND TITLE: 14.010200 BOOKKEEPERS
(See Worksheet #1)

TASK NUMBER	TASKS
[illegible]	NOTES LEDGER ACCOUNTS TO WHICH ITEMS ARE TO BE CHARGED OR CLASSIFIES ITEMS BY PREDETERMINED SYSTEM
6 7	ENTERS TOTALS OF TRANSACTIONS IN ACCOUNT/CASH JOURNALS
2	COMPUTES PERCENTAGES/TOTALS
11	COMPUTES TYPES AND MAILS MONTHLY STATEMENTS TO CUSTOMERS
9	CALCULATES EMPLOYEE WAGES (FROM PLANT RECORDS/TIME CARDS AND PREPARES CHECKS OR WITHDRAWS CASH FROM [illegible] FOR PAYMENT OF WAGES
	VERIFIES ACCURACY OF DATA AND CORRECTS ERRORS
[illegible] [illegible], 19	COMPLETES BOOK THROUGH TRIAL BALANCE
12 20	BALANCES BOOKS AND COMPILES REPORTS
8	MAY PREPARE TAX REPORTS
10	KNOWS SIMILARITIES/DIFFERENCES OF SINGLE AND DOUBLE ENTRY BOOKKEEPING AND CAN SET UP LEDGERS FOR EACH TYPE
4	

TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

Page __ of __

USOE PROGRAM CODE AND TITLE: 14.010200 BOOKKEEPERS
(See Worksheet #1)

COURSE TITLES

TASK NUMBER	TASKS
5	CAN READ AND INTERPRET FINANCIAL STATEMENTS
[illegible]	SELECTS AND PLACES BOOKKEEPING FORMS ON WRITING SURFACE OF MACHINE AND SETS CARRIAGE DEPRESSES KEYS OF MACHINE TO RECORD DATA, CALCULATE AND POST TOTALS

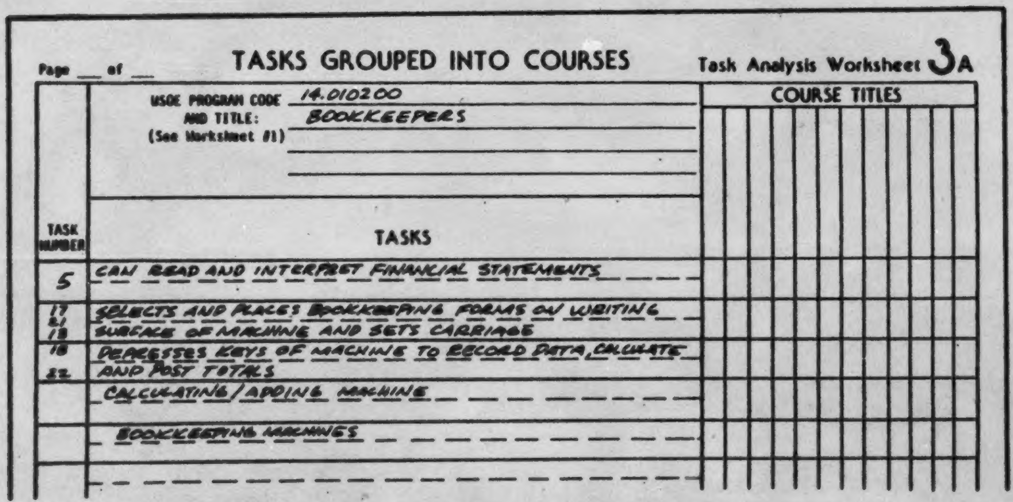
INSTRUCTIONS

6. List all equipment, machinery, tools, etc., that are used or required for the occupations.

EXPLANATION

A space was provided on Worksheet #2 to list any special equipment, machinery, tools, etc., that are used on the job. Since the student may be required to possess these additional skills for successful performance on the job, it is important that the instructional content of the program also include training in these areas. Even though the use of a certain piece of equipment, etc., may be inherent to the successful completion of a task, the learning process necessary to operate the equipment should not be overlooked as an intregal part of the curriculum. Therefore, to insure the inclusion of these skills all equipment, etc., are listed as additional tasks. In addition, the list of equipment, etc., is useful to determine the budget, hardware, software, etc., needed to successfully implement the program.

Each type of equipment, etc., should be listed only once. If the equipment, etc., is similar from one occupation to another, they should be combined into a single entry on Worksheet #3A. *In this example,* the Task Analyst has listed calculating/adding machine and bookkeeping machine on Worksheet #3A.



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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE AND TITLE: 14.010200 BOOKKEEPERS
(See Worksheet #1)

TASK NUMBER	TASKS	COURSE TITLES
5	CAN READ AND INTERPRET FINANCIAL STATEMENTS	
17 21 13	SELECTS AND PLACES BOOKKEEPING FORMS ON WRITING SURFACE OF MACHINE AND SETS CARRIAGE	
18 22	DEPRESSES KEYS OF MACHINE TO RECORD DATA, CALCULATE AND POST TOTALS	
	CALCULATING/ADDING MACHINE	
	BOOKKEEPING MACHINES	

INSTRUCTIONS

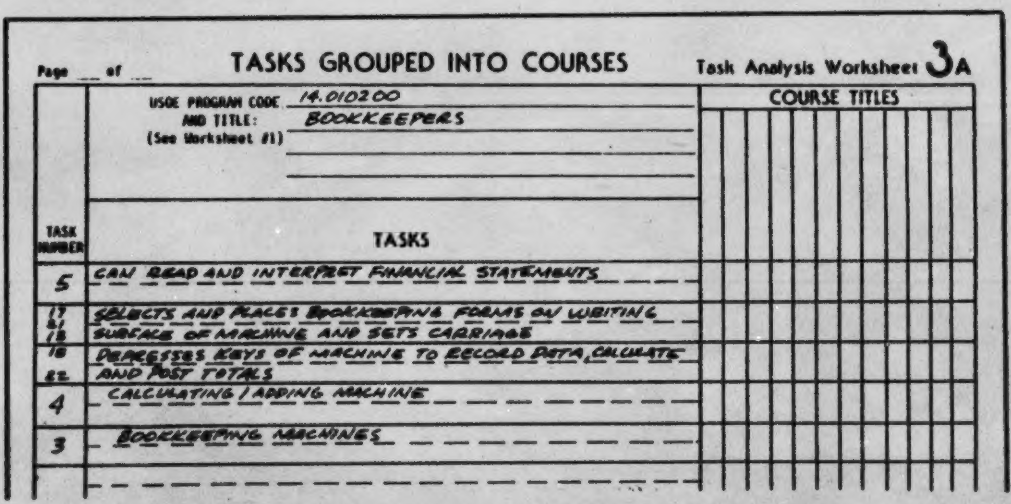
7. Use the Task # column to enter the number of times the particular piece of equipment, machinery, tools, etc., was listed on Worksheet #2.

EXPLANATION

The equipment, machinery, tools, were not assigned a task number on Worksheet #2. However, the Task # column can be used to indicate how often each was listed on Worksheet #2. A high number in this column can provide an indication of resources (dollars and instructional time) that should be allocated toward this equipment and its related tasks.

In this example, adding/calculating machine and bookkeeping machine were listed four and three times respectively on the previously completed Worksheets #2. These numbers were therefore entered in the Task # column.

Since adding/calculating machine were listed in 4 of the 7 occupations and bookkeeping machines in 3 of these 7, it was felt that the operation of this equipment was important enough to include in the instructional content of the Bookkeeping Program.



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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE 14.010200
AND TITLE: BOOKKEEPERS
(See Worksheet #1)

TASK NUMBER	TASKS	COURSE TITLES
5	CAN READ AND INTERPRET FINANCIAL STATEMENTS	
17 21 13	SELECTS AND PLACES BOOKKEEPING FORMS ON WRITING SURFACE OF MACHINE AND SETS CARRIAGE	
18 22	DEPRESSES KEYS OF MACHINE TO RECORD DATA, CALCULATE AND POST TOTALS	
4	CALCULATING / ADDING MACHINE	
3	BOOKKEEPING MACHINES	

INTRODUCTION TO WORKSHEET #3B

Worksheet #3B, although identical to Worksheet #3A in format, has been designed so that additional skills and knowledges that are associated with the occupations can be listed for inclusion in the instructional content. While the DOT definitions are usually quite thorough in their delineation of occupational tasks, they do not always account for other important aspects of the occupations that contribute to a worker's success on the job, i.e. attitude, work habits, personal appearance. Therefore, it may be appropriate to increase the student's awareness of these other job parameters through their vocational education program.

In addition, some level of proficiency in reasoning, math, and language is usually required for successful job performance and/or career advancement. Again, these requirements are not always indicated in the DOT definitions.

The steps outlined in the following section will enable you, the Task Analyst, to identify and list these additional job requirements on Worksheet #3B. In conjunction with Worksheet #3A, this worksheet will provide an overall picture of the skills, tasks, and special knowledges which should be included in the instructional content of your vocational education program.

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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3B

USOE PROGRAM CODE AND TITLE: ____________________
(See Worksheet #1) ____________________

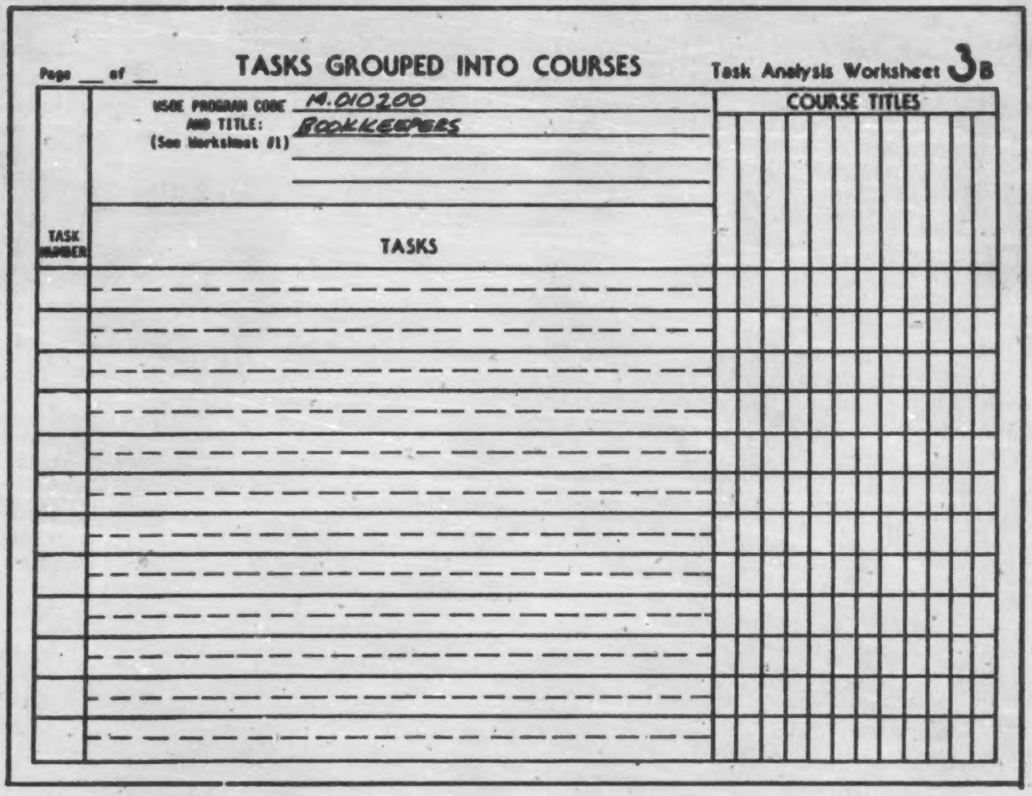
TASK NUMBER	TASKS	COURSE TITLES											

INSTRUCTIONS

1. Enter the USOE program code and title of the program being analyzed in the space provided on Worksheet #3B.

EXPLANATION

Prepare several of these forms in this manner to avoid repeating this step later.



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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3B

USOE PROGRAM CODE AND TITLE: M.010200
(See Worksheet #1) BOOKKEEPERS

TASK NUMBER	TASKS	COURSE TITLES

INSTRUCTIONS

2. List all supplementary or prerequisite skills which have not been previously listed but will be required of the students prior to successful program completion and/or performance on the job.

EXPLANATION

There are often many basic/prerequisite skills (reading, math, language) that the student should possess before certain occupational tasks can be adequately learned. The DOT definitions themselves do not always delineate these additional requirements. However, the DOT subcodes, particularly the General Education Development (GED) code can be used effectively to enumerate and define these additional student requirements. The GED is a three-digit code which indicates the reasoning, math, and language levels that a worker is expected to possess for a given occupation. GED levels range from one (1), the lowest level of complexity, to six (6), the highest level of complexity. The GED levels are cumulative; that is each ascending level indicates a set of abilities and knowledges which are required in addition to all the abilities described at the lower GED levels. For example, a GED level of 3 means that a person must possess all the abilities listed in GED levels 1, 2, and 3. An appendix in the VPO contains a complete description of each of these GED levels.

On Worksheet #1 you will find a column entitled GED with the initials R (reasoning), M (math), and L (language) listed underneath. By examining this column for each occupation remaining on Worksheet #1, determine the highest level of reasoning, math, and language required for any of the occupations. Read the section of the VPO appendix which explains each of the levels in terms of the abilities the student should have. (By reading those sections up to and including the highest GED levels, you can determine the maximum abilities which could be required of your students when entering any of the occupations listed on Worksheet #1.) If your students do not possess these abilities prior to entering your program, either prerequisite or required courses in your program should include instruction in these areas.

In the example, the Task Analyst determined that the following were the highest levels required for the occupations remaining on Worksheet #1:

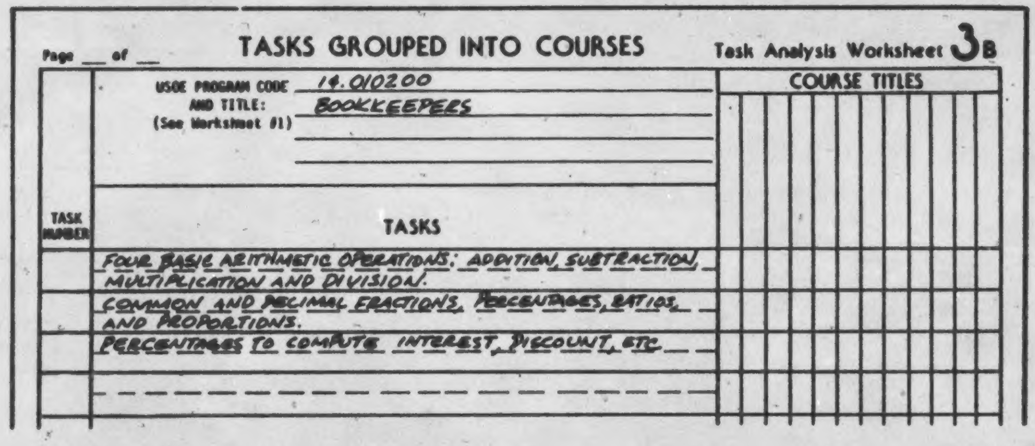
Reasoning:	4
Math:	4
Language:	3

After reading about levels 1, 2, 3 and 4 in the appendix within the VPO the Task Analyst determined that the students entering the Bookkeeping Program would need to master the following:

Four Basic arithmetic operations: addition, subtraction, multiplication and division.
Common and decimal fractions, percentages, ratios, and proportions.
Percentages to compute interest, discount, etc.

These were then entered onto Worksheet #3B.

In addition, the Analyst determined that the student should be able to a) read and interpret guidelines/instructions on bookkeeping practices and b) read and comprehend regulations and laws concerning bookkeeping requirements. Since the primary skill required to accomplish these was reading ability, the Analyst felt that these were not appropriate additions to the instructional content of the Bookkeeping Program and therefore did not list either on Worksheet #3B.



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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3B

USOE PROGRAM CODE 14.010200
AND TITLE: BOOKKEEPERS
(See Worksheet #1)

TASK NUMBER	TASKS	COURSE TITLES
	FOUR BASIC ARITHMETIC OPERATIONS: ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION.	
	COMMON AND DECIMAL FRACTIONS, PERCENTAGES, RATIOS, AND PROPORTIONS.	
	PERCENTAGES TO COMPUTE INTEREST, DISCOUNT, ETC	

INSTRUCTIONS

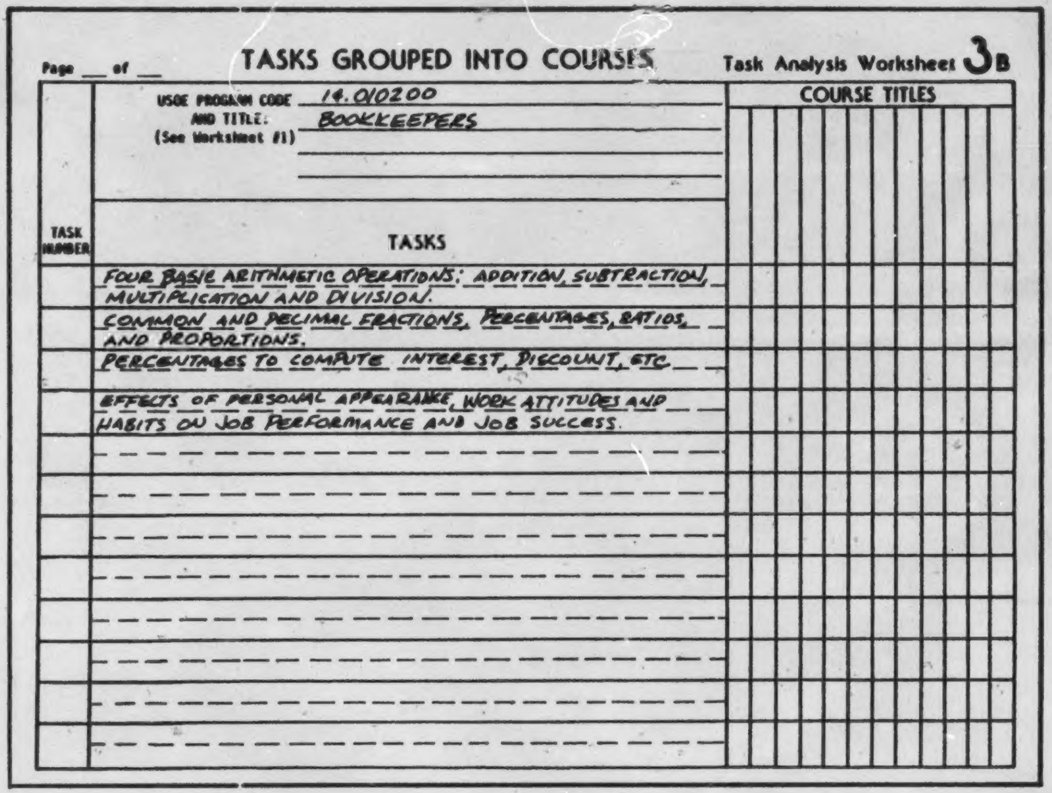
3. List any additional work-related knowledge that you determine should be included in the program's instructional content.

EXPLANATION

Additional work-related knowledge may include: work habits, work attitudes, personal appearance, customer/employee relationships. Members of your advisory committee should be able to indicate the importance of these items for specific occupations (e.g. personal appearance may be more important for one job than for another).

In addition to advisory committee input, the DOT code itself can assist in determining the emphasis to be placed on these work-related elements. For example, the fourth, fifth and sixth digits of the DOT code indicate the worker's relationship to data, people and things respectively. These relationships to data, people and things are arranged in a hierarchy from the simple to the complex. The lower numbers represent more complex or higher skill levels. For example, 210.382-014, Bookkeeper I, the number .382 represents the data, people, things component of the DOT code. These numbers indicate that the worker's relationship to data is a hierarchy level 3, which is described as "Compiling"; the relationship to people is at level 8, which is described as "Taking Instructions-Helping"; and the relationship to things is at level 2 for "Operating-Controlling." The numbers provide a description of the worker's functional activities in this particular occupation. The worker's primary activities involve compiling data and operating-controlling things. Contacts with people are of little importance. (Refer to the DOT publication for more detail on the meaning of each nine-digit code number.) Clues can be gained through the examination of these codes to determine if and at what level any additional work-related knowledges should be included in the instructional content, especially in regards to a worker's relationship to people.

In the example, the input received from the advisory committee indicated that work attitudes, habits, and personal appearance were very important aspects of the occupations for which the Bookkeeping Program was training and should be included in the instructional content. Therefore, entries to that input were made onto Worksheet #3B by the Task Analyst. The Analyst then examined the third, fourth and fifth digits of the DOT codes for those occupations included in the analysis to determine if there were any other worker-related knowledges that should be included. Upon careful examination of these codes it was determined that the data and things relationships had been adequately delineated within the tasks which were already recorded on Worksheet #3A. In addition, since most of the occupations had been assigned a high number (8) for worker's relationships to people, the Analyst did not make further entries on Worksheet #3B regarding customer/employee relationships.



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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3B

USOE PROGRAM CODE AND TITLE: (See Worksheet #1) 14.010200 BOOKKEEPERS

TASK NUMBER	TASKS	COURSE TITLES
	FOUR BASIC ARITHMETIC OPERATIONS: ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION.	
	COMMON AND DECIMAL FRACTIONS, PERCENTAGES, RATIOS, AND PROPORTIONS.	
	PERCENTAGES TO COMPUTE INTEREST, DISCOUNT, ETC	
	EFFECTS OF PERSONAL APPEARANCE, WORK ATTITUDES AND HABITS ON JOB PERFORMANCE AND JOB SUCCESS.	

INSTRUCTIONS

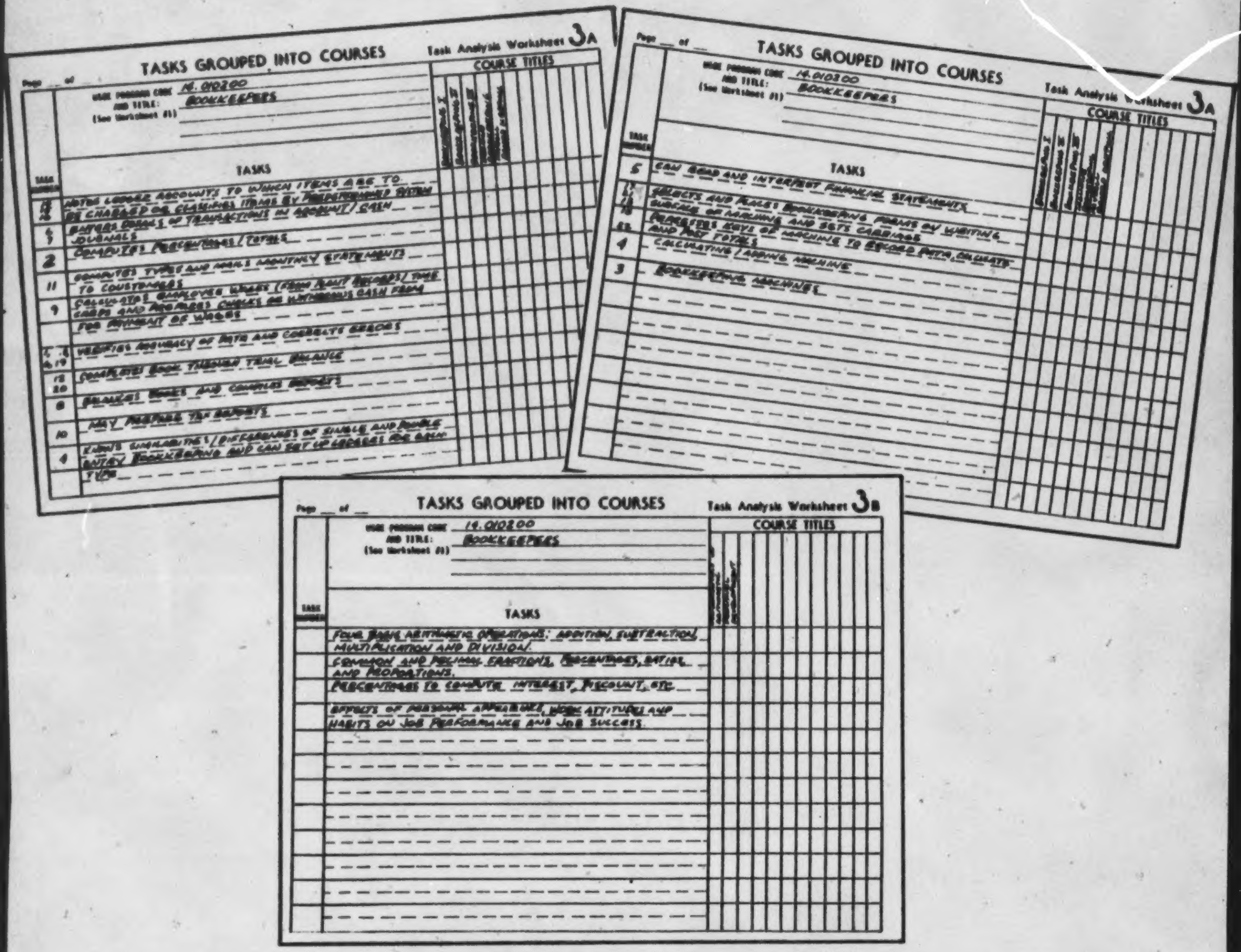
4. List all courses which make up the program under scrutiny in the sections provided on both Worksheets #3A and #3B.

EXPLANATION

When using the TAP to evaluate existing programs, list those course titles that currently make up the program being analyzed. (*See example next page.*)

When designing new programs, course titles should be arbitrarily selected at this time to be modified, if necessary, after the completion of this section. Following are suggested methods to assist in this selection process. 1) Based on knowledge gained thus far in the process (by completion of Worksheets #1, #2, and #3A), you may have a general idea of the type and titles of the courses needed to insure that all listed tasks are included in the instructional content. If so, list the course titles in the space provided. Or, 2) obtain a list of courses from other educational institutions which currently teach a program similar to your proposed program and insert these course titles in the Course Titles section of both Worksheets #3A and #3B. Or, 3) have your advisory committee provide input for appropriate course titles.

See example next page.



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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE AND TITLE: (See Worksheet #1) 14.010200 BOOKKEEPERS

COURSE TITLES

TASK NUMBER	TASKS
[illegible]	NOTES LEDGER ACCOUNTS TO WHICH ITEMS ARE TO BE CHARGED OR CLASSIFIES ITEMS BY PREDETERMINED SYSTEM
6 7	ENTERS DETAILS OF TRANSACTIONS IN ACCOUNT/CASH JOURNALS
2	COMPUTES PERCENTAGES/TOTALS
11	COMPUTES TYPES AND MAILS MONTHLY STATEMENTS TO CUSTOMERS
9	CALCULATES EMPLOYEE WAGES (FROM PLANT RECORDS/TIME CARDS AND PREPARES CHECKS OR WITHDRAWS CASH FROM FOR PAYMENT OF WAGES
5, 8 6, 19	VERIFIES ACCURACY OF DATA AND CORRECTS ERRORS
12 20	COMPLETES BOOK THROUGH TRIAL BALANCE
8	BALANCES BOOKS AND COMPILES REPORTS
10	MAY PREPARE TAX REPORTS
4	KNOWS SIMILARITIES/DIFFERENCES OF SINGLE AND DOUBLE ENTRY BOOKKEEPING AND CAN SET UP LEDGERS FOR EACH TYPE

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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE AND TITLE: (See Worksheet #1) 14.010200 BOOKKEEPERS

COURSE TITLES

TASK NUMBER	TASKS
5	CAN READ AND INTERPRET FINANCIAL STATEMENTS
17 18	SELECTS AND PLACES BOOKKEEPING FORMS ON WRITING SURFACE OF MACHINE AND SETS CARRIAGE
[illegible]	DEPRESSES KEYS OF MACHINE TO RECORD DATA, CALCULATE AND POST TOTALS
4	CALCULATING/ADDING MACHINE
3	BOOKKEEPING MACHINES

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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3B

USOE PROGRAM CODE AND TITLE: (See Worksheet #1) 14.010200 BOOKKEEPERS

COURSE TITLES

TASK NUMBER	TASKS
	FOUR BASIC ARITHMETIC OPERATIONS: ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION.
	COMMON AND DECIMAL FRACTIONS, PERCENTAGES, RATIOS AND PROPORTIONS.
	PERCENTAGES TO COMPUTE INTEREST, DISCOUNT, ETC.
	EFFECTS OF PERSONAL APPEARANCE, WORK ATTITUDES AND HABITS ON JOB PERFORMANCE AND JOB SUCCESS.

INSTRUCTIONS

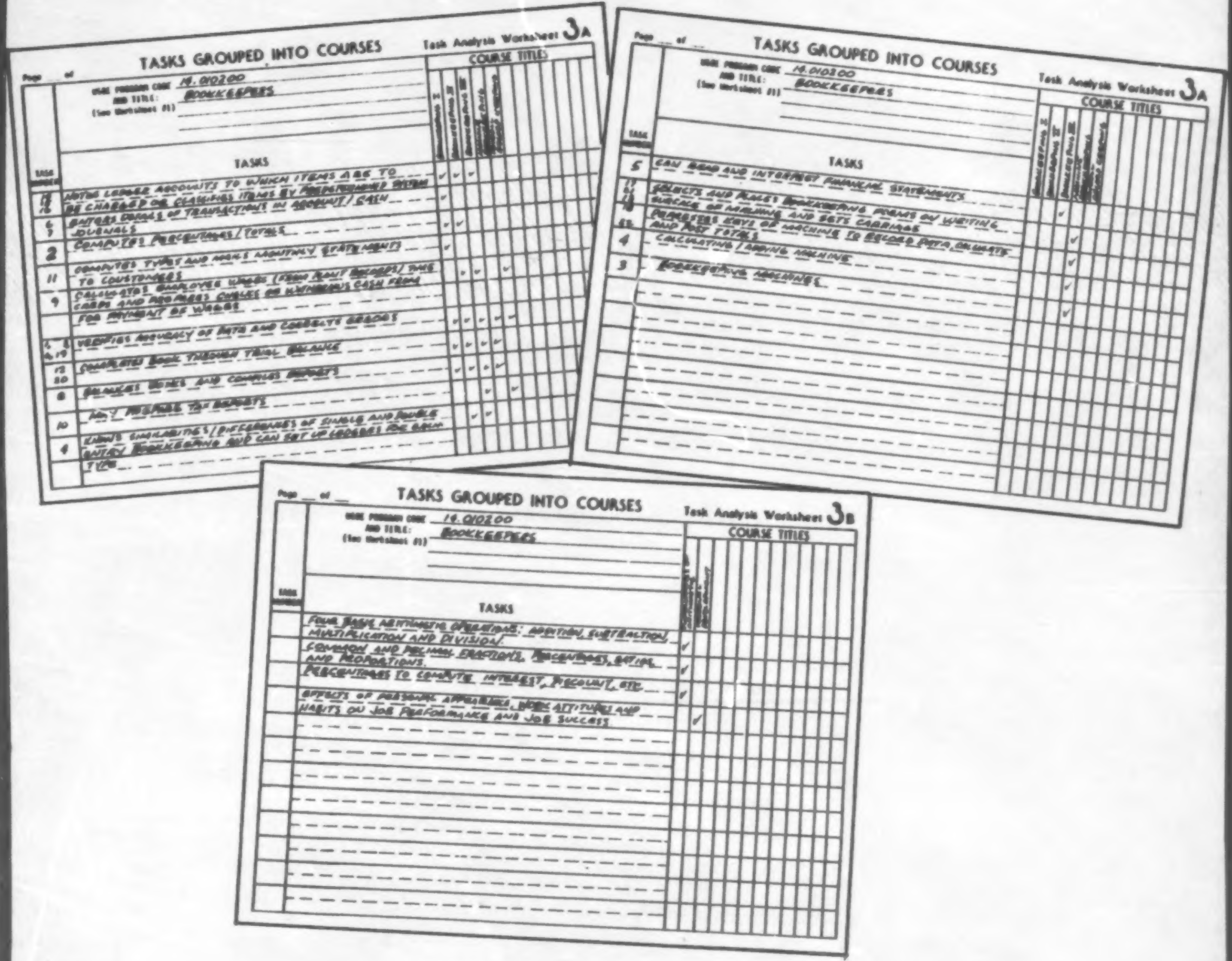
5. Complete the matrix on the far right hand side of Worksheets #3A and #3B by placing a check mark opposite the course in which each task should be taught.

EXPLANATION

Many of the tasks listed will be performed by the student throughout the duration of the program, however, the task should only be taught once. For example, within a bookkeeping program the task "Enters details of transactions in account/cash journals" will be performed continually at all levels of the program, but, the actual instruction on how to perform this task should only be taught once. *In our example,* the Task Analyst has decided that this task should be taught early in the program and has assigned it to the Bookkeeping I course.

Other tasks which are also performed by the student throughout the duration of the program may require varying levels of complexity, therefore, it may be appropriate to teach these tasks (at varying levels) in every course in the program. For example, the task "Verifies accuracy of data and corrects errors" will require different knowledge and instruction when performing simple bookkeeping transactions versus payroll recordkeeping versus using a machine to perform and maintain financial records. *In the example,* the Task Analyst felt that this task should be a part of the instructional content of all courses within the Bookkeeping Program and placed a check mark under all course titles.

See example next page.



TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

Page ___ of ___

USOE PROGRAM CODE AND TITLE: 14.010200 BOOKKEEPERS
(See Worksheet #1)

COURSE TITLES

TASK NUMBER	TASKS					
17 18 16	NOTES LEDGER ACCOUNTS TO WHICH ITEMS ARE TO BE CHARGED OR CLASSIFIES ITEMS BY PREDETERMINED SYSTEM	✓	✓	✓		
6 7	ENTERS TOTALS OF TRANSACTIONS IN ACCOUNT/CASH JOURNALS	✓				
2	COMPUTES PERCENTAGES/TOTALS	✓	✓			
11	COMPUTES, TYPES AND MAILS MONTHLY STATEMENTS TO CUSTOMERS	✓				
9	CALCULATES EMPLOYEE WAGES (FROM PLANT RECORDS/TIME CARDS) AND PREPARES CHECKS OR WITHDRAWS CASH FROM		✓	✓		✓
	FOR PAYMENT OF WAGES					
1, 4, 19	VERIFIES ACCURACY OF DATA AND CORRECTS ERRORS	✓	✓	✓	✓	✓
12 20	COMPLETES BOOK THROUGH TRIAL BALANCE	✓	✓	✓	✓	
8	BALANCES BOOKS AND COMPILES REPORTS	✓	✓	✓	✓	
10	MAY PREPARE TAX REPORTS			✓		✓
4	KNOWS SIMILARITIES/DIFFERENCES OF SINGLE AND DOUBLE ENTRY BOOKKEEPING AND CAN SET UP LEDGERS FOR EACH		✓	✓		
	TYPE					

TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

Page ___ of ___

USOE PROGRAM CODE AND TITLE: 14.010200 BOOKKEEPERS
(See Worksheet #1)

COURSE TITLES

TASK NUMBER	TASKS				
5	CAN READ AND INTERPRET FINANCIAL STATEMENTS			✓	
17 16 18	SELECTS AND PLACES BOOKKEEPING FORMS ON WRITING SURFACE OF MACHINE AND SETS CARRIAGE			✓	
22	DEPRESSES KEYS OF MACHINE TO RECORD DATA, CALCULATE AND POST TOTALS			✓	
4	CALCULATING/ADDING MACHINE			✓	
3	BOOKKEEPING MACHINES			✓	

TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3B

Page ___ of ___

USOE PROGRAM CODE AND TITLE: 14.010200 BOOKKEEPERS
(See Worksheet #1)

COURSE TITLES

TASK NUMBER	TASKS		
	FOUR BASIC ARITHMETIC OPERATIONS: ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION.	✓	
	COMMON AND DECIMAL FRACTIONS, PERCENTAGES, RATIOS, AND PROPORTIONS.	✓	
	PERCENTAGES TO COMPUTE INTEREST, DISCOUNT, ETC.	✓	
	EFFECTS OF PERSONAL APPEARANCE, WORK ATTITUDES AND HABITS ON JOB PERFORMANCE AND JOB SUCCESS		✓

INSTRUCTIONS

6. When evaluating existing programs: Verify that all tasks which have been assigned to a specific course (identifiable by a check mark appearing under the course title) are actually a part of the instructional content as it now exists by comparing the task matrix with existing course outlines. Modify the course outline by adding or deleting tasks based on this verification process.

   When developing new programs: Develop course outlines.

EXPLANATION

Existing programs: If some of the tasks which appear on Worksheets #3A and #3B are not a part of the existing course outline, you may consider expanding your present course outline to include them in your instruction or to develop new courses and corresponding course outlines to accommodate them.

If items appear on your existing course outline and not on Worksheets #3A and #3B carefully evaluate these items to determine their relevency to the program. Be sure to delete those tasks/items from your existing course outline that are obsolete due to technological advancements.

New programs: See Appendix A to assist in the development of course outlines.

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TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE 14.010200
AND TITLE: BOOKKEEPERS
(See Worksheet #1)

TASK NUMBER	TASKS	BOOKKEEPING I	BOOKKEEPING II	BOOKKEEPING III	MACHINE BOOKKEEPING	PAYROLL RECORD KEEPING
14 15 16	NOTES LEDGER ACCOUNTS TO WHICH ITEMS ARE TO BE CHARGED OR CLASSIFIES ITEMS BY PREDETERMINED SYSTEM	✓	✓	✓		
6 7	ENTERS DETAILS OF TRANSACTIONS IN ACCOUNT/CASH JOURNALS	✓				
2	COMPUTES PERCENTAGES/TOTALS	✓	✓			
11	COMPUTES TYPES AND MAILS MONTHLY STATEMENTS TO COUSTOMERS	✓				
9	CALCULATES EMPLOYEE WAGES (FROM PLANT RECORDS/ TIME CARDS AND PREPARES CHECKS OR WITHDRAWS CASH FROM FOR PAYMENT OF WAGES		✓	✓		✓
1, 3, 6, 19	VERIFIES ACCURACY OF DATA AND CORRECTS ERRORS	✓	✓	✓	✓	✓
12 20	COMPLETES BOOK THROUGH TRIAL BALANCE	✓	✓	✓	✓	
8	BALANCES BOOKS AND COMPILES REPORTS	✓	✓	✓	✓	
10	MAY PREPARE TAX REPORTS			✓		✓
4	KNOWS SIMILARITIES/DIFFERENCES OF SINGLE AND DOUBLE ENTRY BOOKKEEPING AND CAN SET UP LEDGERS FOR EACH TYPE.		✓	✓		

Page 2 of 2

TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE 14.010200
AND TITLE: BOOKKEEPERS
(See Worksheet #1)

TASK NUMBER	TASKS	COURSE TITLES											
		BOOKKEEPING I	BOOKKEEPING II	BOOKKEEPING III	MACHINE BOOKKEEPING	PAYROLL RECORD KEEPING							
5	CAN READ AND INTERPRET FINANCIAL STATEMENTS			✓									
17 21 13	SELECTS AND PLACES BOOKKEEPING FORMS ON WRITING SURFACE OF MACHINE AND SETS CARRIAGE				✓								
18 22	DEPRESSES KEYS OF MACHINE TO RECORD DATA, CALCULATE AND POST TOTALS				✓								
4	CALCULATING/ADDING MACHINE				✓								
3	BOOKKEEPING MACHINES				✓								

Page 1 of 1

TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3B

USOE PROGRAM CODE AND TITLE: 14.010200 BOOKKEEPERS
(See Worksheet #1)

		COURSE TITLES											
TASK NUMBER	TASKS	FUNDAMENTALS OF ARITHMETIC	PERSONAL DEVELOPMENT										
	FOUR BASIC ARITHMETIC OPERATIONS: ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION.	✓											
	COMMON AND DECIMAL FRACTIONS, PERCENTAGES, RATIOS, AND PROPORTIONS.	✓											
	PERCENTAGES TO COMPUTE INTEREST, DISCOUNT, ETC.	✓											
	EFFECTS OF PERSONAL APPEARANCE, WORK ATTITUDES AND HABITS ON JOB PERFORMANCE AND JOB SUCCESS.		✓										

SUMMARY OF THE TASK ANALYSIS PROCESS

Where are you now?

At this point, you have accumulated a large amount of information about the program being analyzed. You know:

1) the program's current USOE code, title and description;
2) the occupations for which the program trains;
3) the tasks which workers aspiring to enter those occupations must know in order to successfully obtain and hold jobs; and,
4) the courses in which those tasks will be taught.

You also know the industries in which the listed occupations can be found, the specialized equipment needed on the job and in the classroom, whether each task is required, recommended or optional for the occupation in question, and the content of courses which make up the program.

Where do you go from here?

Course outlines should now be available for each course listed on Worksheets #3A and #3B. (Appendix A provides information about course outline development if this step has not been completed yet.) The next step, then, is the completion of the lesson plan for each course. For those who do not have a completed set of lesson plans or those who need to modify current lesson plans, Appendix B contains both a form and a suggested methodology of lesson plan development.

The worksheets, detailed course outlines, and lesson plans describe many aspects of a course; however, additional information such as course frequency, length, intent, etc., is often required to make administration and curriculum decisions. To capture and display the additional course information, the Standard Course Outline (SCO) was developed and has been included in Appendix A of this publication. It is suggested that an SCO be prepared for each course offered within an instructional program and placed on top of the detailed course outline developed. The completed SCOs can then be combined and the information subsequently transferred to the Program Course Inventory (PCI). (See Appendix C,) The PCI defines vocational education instructional programs in terms of the courses of which they are comprised and their occupational objectives. In addition, the PCI enables the summarization of information offered through completion of the TAP and SCO, and allows for the addition of this pertinent information about the program in question. When the PCI is completed and placed on top of the SCO, detailed course outlines and lesson plans, a packet containing all the information about the vocational education program will be in one place. This packet then can serve as a base for the program's documentation.

How can you use the Task Analysis Process?

There are many ways the completed TAP can be used. The suggestions listed below are by no means an all-inclusive list.

1. The TAP can help planners and administrators make decisions as to which of the several programs could benefit most from additional funding aimed at increasing the preparedness of students for employment.
2. If a program's placement rate is low, the TAP used as program evaluator can help to decide whether the poor placement rate is caused by internal problems (badly trained students) or external problems such as a low labor demand coupled with a high supply of trained workers.
3. The TAP is useful to restructure presently existing programs is such a way tnat their component parts (courses which teach tasks) fit together without overlap (internal articulation).
4. The TAP can help to insure that a student who takes a high school vocational program and wishes to continue studies at a local community college or private vocational school is not asked to study the same information and skills more than once (external articulation).
5. When used in conjunction with the Program/Course Inventory Form, the TAP provides a centralized and complete source of program documentation.

FOOTNOTES

1. Vivian Jackson, *Task Analysis, A Systematic Approach to Designing New Careers Programs*, (New York: New York University, 1971) pp. 5-6.

2. *Ibid*.

3. Robert F. Mager and Kenneth M. Beach, Jr., *Developing Vocational Instruction*, (Belmont: Fearon Publishing, 1967) p. 61.

4. *Ibid*., pp. 59-60

5. *Ibid*., p. 60

6. *Ibid*.

7. *Ibid*.

8. Center for Vocational Education, the Ohio State University, *Develop a Lesson Plan*, (Athens: American Association for Vocational Instructional Materials, 1977) pp. 3-8.

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APPENDIX A

COURSE OUTLINE

The Course Outline presented in this appendix is composed of two major sections: (A) the Detailed Course Outline contains information relating to the instructional content of the course and (B) the Standard Course Outline (SCO), a form which captures and displays the information required for administrative/ curriculum purposes, e.g., course length, frequency, etc. When the SCO is completed and placed on top of the Detailed Course Outline, a complete description of the course in terms of both its instructional and operational aspects is available to instructors, administrators, curriculum developers and all others involved in the provision of vocational education.

A. Detailed Course Outline

The Detailed Course Outline displays in an organized and sequential manner the major topics (or units) to be included in the content of the course and in addition the specific tasks, skills and/or knowledges of which these units are comprised.

The first step in the development of a Detailed Course Outline involves the identification and listing of the major instructional units. The units may be selected on the basis of different types of equipment required, services rendered, basic operations, materials or product(s) worked on, or related theories. It is recommended that when selecting these major units, the tasks listed on Worksheet #3A are simultaneously examined since such an examination may indicate the most appropriate selection method. For example, if all tasks listed on Worksheet #3A relate to various aspects of the repair of gasoline engines, major instructional units might include "the carburetor," "the ignition system," and "the transmission."

Instructional units should be stated in general terms such as "the respiratory system," "the general ledger," etc. Once these units have been selected, the specific subunits, or tasks, of which they are composed are then identified. For example, "notes ledger accounts to which items are to be charged" is a task listed on Worksheet #3A and can be considered a subunit of the unit entitled "the general ledger."

Due to time constraints, equipment requirements and other restrictions, it may not be feasible to include every task listed on Worksheets #3A and #3B as part of the instructional content of the course. However, those tasks that were indicated as "required" on Worksheet #2 should be included as subunits in the Course Outlines corresponding to the "required" courses in the program.

It is recommended that during the development stage, the instructional units be written on 3 X 5 cards and when appropriate, the subunits or tasks can be added. The 3 X 5 cards permit experimentation with the sequence of each unit on the final outline. There are many methods by which instructional units can be sequenced including but not limited to: (1) simple to complex; (2) frequency of performance; (3) general to specific; (4) interest; (5) logical order; (6) skill sequencing; and (7) by tools, equipment, machinery, or product. (Each of these methods has been discussed on page 62 of the TAP.) The subunits or "tasks" within each unit can be similarily sequenced and, in fact, the tasks listed on the finalized version of Worksheet #3A should already be sequenced according to one or more of these methods.

Other information to be included on the cards is the instructional time required for the unit and each of its subunits. The total Instructional Time indicated on these cards should not exceed the number of classroom hours available for the course.

When the 3 X 5 cards have been completed and the sequence of the units and their corresponding subunits established, the following format, which allows for the transfer of all information contained on the cards, can be utilized to prepare the final Course Outline.

Course Title:

Course Description:

> (This is a very brief overview of the course stating the general purpose of the course, an indication of the total time required, units if appropriate, and the appropriate grade level(s) for potential students.)

Topical Outline	Instructional Time	Task Number(s) (From Worksheet #3A)
I. Unit Title		
A. Subunit (Task) Description		
B. ____________________		
C. ____________________		
II. Unit Title		
A. Subunit (Task) Description		
B. ____________________		
C. ____________________		

B. Standard Course Outline (SCO)

The Standard Course Outline (SCO) is an important link between the Task Analysis Process (TAP) and the Program Course Inventory (PCI). The TAP provides the method for associating occupations with education through their lowest common demoninator, the task. The course can be viewed as a series of instructional units which teach tasks which in turn become "part of an instructional program." The PCI is the instructional program in terms of courses and their occupational objectives.

Therefore, the SCO becomes the cover sheet for the Detailed Course Outline, lesson plan and any other required State Local Educational Agency (LEA) documentation used to develop, maintain and update a course(s) or program. All SCOs which comprise a program can then be combined and when completed transferred to the PCI. In addition, data pertaining to the program is readily available for review and evaluation.

The SCO is based upon several local, State and Federally mandated forms which are presently in use throughout many California school systems. This form provides users with a standardized method for consolidating required information on one form for administrative purposes. The SCO is designed to be used by all primary deliverers of both vocational and general education and can be utilized for the following purposes:

1. Program/Course Approval:

Every school/college district has some group (i.e., curriculum committee, administrative councils, boards of education), which approves courses and programs. Utilizing the SCO in this approval process enables these decision-makers to see the relationship of the program to specific occupational objectives and other technical aspects such as instructional time, facility utilization, special building requirements for handicapped students, etc.

2. Program Articulation:

The SCO can be used by school districts to assist them in preparing required articulation agreements. Because of its design and associated definitions, the SCO enables secondary vocational education directors, community college deans, regional occupational program/center directors and adult education principals to analyze course content. This process will improve the students' ability to progress through programs offered by various participating instructions without being required to repeat certain competencies.

3. Justification of Course/Program Operation:

The SCO is useful to vocational education program administrators who are faced with the problems of justifying the operation of a particular course. Such factors as instructional time required to offer the course, complexity of subject matter, related occupations, and numerous other administrative details are displayed on the SCO. These different information elements are critical to those who must justify course/program continuation.

STANDARD COURSE OUTLINE (SCO)

GENERAL INFORMATION

(ITEMS 1-6 FOR EDUCATIONAL INSTITUTION ONLY)

1 CDS |_|_|_|_|_|_|_|_|_|_|_|_|_|_|

2 DISTRICT ____________________

3 SCHOOL/COLLEGE ____________________

4 LOCAL LOCATOR CODE (OPT) |_|_|_|_|_|_|_|_|_|

5 FOR DP USE ONLY (OPT) |_|_|_|_|_|_|_|_|_|

6 COURSE MEETS STATE PLAN ☐

7 ☐ NEW ☐ CONTINUING ☐ PROPOSED

8 DELIVERER OF SERVICE

- ☐ A. SECONDARY SCHOOL
- ☐ B. COMMUNITY COLLEGE
- ☐ C. ADULT SCHOOL
- ☐ D. ROP/C
- ☐ E. PRIVATE
- ☐ F. CETA
- ☐ G. UNIV CA SYSTEM
- ☐ H. CA STATE SYSTEM
- ☐ I. CYA
- ☐ J. OTHER

9 COURSE DESIGNATION FOR SPECIAL STUDENTS

- ☐ A. DISADVANTAGED
- ☐ B. HANDICAPPED
- ☐ C. LES/NES

SPECIFY: ____________________

____

10 EVIDENCE ON FILE OF NEED FOR THIS COURSE (ACTION/MINUTES/DATE)

A. STUDENT/COMMUNITY ____________________

B. ADVISORY COMMITTEE(S) ____________________

C. LABOR MARKET

☐ 1. LOCAL ANALYSIS ☐ 2. EDD ANALYSIS ☐ 3. BOTH (LOCAL EDD)

☐ 4. COIS DATA USED ☐ 5. SUPPLEMENTAL DATA USED

D. ESTIMATED ENROLLMENT PER SECTION

1. INITIALLY __________ 2. DEVELOPED __________

11 COURSE APPROVAL:	SIGNATURE	DATE
A. INSTRUCTOR		
B. IMMEDIATE SUPERVISOR		
C. CURRICULUM COMMITTEE		
D. ADVISORY COMMITTEE		
E. MANAGER		
F. CHIEF SCHOOL ADMINISTRATOR		
G. DISTRICT MANAGER		
H. DISTRICT SUPT/CHANCELLOR		
I. BOARD		
J. FINAL COURSE APPROVAL		

12 COURSE REVIEW	DATES	RECOMMENDATIONS
REVISION #1		
REVISION #2		
REVISION #3		
REVISION #4		
REVISION #5		

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COURSE DESCRIPTORS

13 COURSE TITLE ____

14 COURSE DESCRIPTION ____

15 UNIQUE COURSE CODE ____

16 CID (CLASSIFICATION OF INSTRUCTIONAL DISCIPLINES) ____

17 DIST. COURSE NO. ____

18 METHOD OF INSTRUCTION
- ☐ A. LECTURE
- ☐ B. LAB
- ☐ C. LECTURE-LAB
- ☐ D. COOR. INST. SYS.
- ☐ E. INDEPENDENT STUDY
- ☐ F. COMMUNITY CLASSRM.
- ☐ G. COOPERATIVE VOC. ED.
- ☐ H. FORUM SERIES
- ☐ I. LECTURE SERIES

19 CREDIT/UNITS REQ. ____

20 GRADING SYSTEM
- ☐ A. CREDIT-GRADED
- ☐ B. NON-CREDIT-NONGRADED
- ☐ C. OTHER ____

21 COURSE LENGTH (CLOCK HOURS) ____

22 FREQUENCY OF OFFERING
- ☐ 1. SEMESTER
- ☐ 2. QUARTER

- ☐ A. FALL
- ☐ B. WINTER
- ☐ C. SPRING
- ☐ D. SUMMER
- ☐ E. SUMMER (INTERSESSION)
- ☐ F. WINTER (INTERSESSION)

23 TIME OF OFFERING
- ☐ A. AM
- ☐ B. PM
- ☐ C. EVENING
- ☐ D. WEEKDAYS
- ☐ E. SAT
- ☐ F. SUN

24 CERTIFICATE COURSE
- ☐ YES
- ☐ NO

25 TRAINING OBJECTIVE:
- ☐ A. APPRENTICESHIP
- ☐ B. ADVANCED OCCUPATIONAL
- ☐ C. INTERMEDIATE OCCUPATIONAL
- ☐ D. BEGINNING OCCUPATIONAL

26 OCCUPATIONAL OUTCOME

	DOT CODE	DOT TITLE
A.		
B.		
C.		

27 PROGRAM(S) UTILIZING COURSE

A. TITLE ____ USOE ____
☐ 1. REQUIRED ☐ 2. REQ OPTIONAL ☐ 3. RECOMMENDED

B. TITLE ____ USOE ____
☐ 1. REQUIRED ☐ 2. REQ OPTIONAL ☐ 3. RECOMMENDED

C. TITLE ____ USOE ____
☐ 1. REQUIRED ☐ 2. REQ OPTIONAL ☐ 3. RECOMMENDED

28 ARTICULATION

A. UNIV OF CA SYSTEM ____

B. STATE UNIV/COLLEGE SYSTEM ____

C. PRIVATE UNIVERSITY/COLLEGE ____

D. COMMUNITY COLLEGE ____

E. ADULT SCHOOL(S) ____

F. ROP/ROC ____

G. SECONDARY SCHOOL ____

INSTRUCTIONS FOR COMPLETING THE STANDARD COURSE OUTLINE FORM (SCO)

The instructions that follow are a suggested step-by-step procedure for completing the Standard Course Outline (SCO) Form. As users become familiar with the form, they may wish to make modifications to meet the needs of their Local Education Agency (LEA). Definitions have been incorporated into the instructions for clarification.

SIDE ONE

GENERAL INFORMATION

(Items 1 through 6 are to be completed by educational institutions only.)

1. CDS Code (County/District/School)
   Enter the appropriate 14-digit CDS code. CDS codes can be obtained from the California Schools Directory, 1978.

2. District Name
   Enter the name of the district in which the course is physically located.

3. School/College
   Enter the name of the school/college at which the course is physically located. If the course is conducted off-campus, i.e. community classrooms, mobile units, etc., this space may be utilized to enter the name of the physical site location.

4. Local Locator Code (Optional)
   To further identify off-campus sites, it is suggested that this space be utilized to record the geographical location by census tract identifiers should it become necessary. Consus tract identifiers and codes are available from county/local planning departments.

5. Data Processing Identification Code (Optional)

An optional item to be used by data processing centers which have assigned unique school identification codes other than the State assigned CDS codes. A maximum of eight positions have been allocated for this purpose.

6. Course Meets State Plan

Indicate with an "X" whether or not this course meets the California State Plan for Vocational Education and the policies/procedures issued by the State Department of Education and the Chancellor's Office of the California Community Colleges.

7. New/Continuing/Proposed Course

Enter in the appropriate box an "X" indicating if the course is new, continuing, or proposed.

8. Deliverer of Service

Place an "X" in the box which designates the type of institution which will operate the course and receive funds for the course via State appointment, students fees, or CETA.

NOTE: When any of the following situations occur within a public school, two boxes should be marked with an "X."

1. When a public school offers a course as a result of contracting with a private agency.
2. When a private school operates a course through CETA funding.

A. Secondary School

A school comprising any span of grades beginning with the next grade following an elementary or middle school and ending with or below grade twelve (12).

B. Community College

A two-year community-based postsecondary institution which has authority to award an associate degree, a diploma and/or certificate of completion, and which offers comprehensive educational services to the community, and may include: occupationally oriented programs, general education, preparation for transfer to a baccalaureate degree program at a four-year institution, continuing adult education, basic developmental education, and community services.

C. Adult School

A separately organized school providing instruction for persons beyond the age of compulsory school attendance.

D. Regional Occupational Program/Regional Occupation Center (ROP/ROC)

A Regional Occupational Program (ROP) is an occupational training program which meets specific requirements and standards of instruction. The training activity is conducted in a variety of physical facilities and not situated in a single location or site.

An ROP shall provide occupational instruction related to the attainment of skills and knowledge so that the students are prepared for:

1. Gainful employment in the occupational area for which training was provided;
2. Occupational upgrading so that the students will have the higher skills levels required by new and changing technology; and/or
3. Preparation for enrollment in more advanced training programs.

NOTE: Regional Occupational Center (ROC) differs from an ROP by location or site. ROC is a single location or site set aside for providing the vocational/occupational training programs of a school district.

E. Private Institution (University/College)

An independent institution of higher learning offering courses of general studies leading to a Bachelor's degree and various postgraduate degrees.

F. Comprehensive Employment and Training Act, 1973 (CETA)

Education delivered under the mandate of Comprehensive Employment and Training Act, 1973, and amendments, the purpose of which is to provide training and employment opportunities for economically disadvantaged persons, unemployed or underemployed persons which will result in an increase in their earned income, and to assure that training and other services lead to maximum employment opportunities and enhance self-sufficiency by establishing a flexible, coordinated, and decentralized system of Federal, State and local programs.

G. University of California System

A California based institution of higher learning providing facilities for teaching and research, and authorized to grant academic degrees: specially one made up of an undergraduate division which confers Bachelor's degrees, a graduate division which comprises a graduate school and professional schools each of which may confer postgraduate degrees.

H. California State System (University/College)

A California subsidized institution of higher learning offering courses of general studies leading to a Bachelor's degree and postgraduate degrees.

I. California Youth Authority (CYA)

Programs providing vocational training services to people assigned by the court to an institution such as a prison, juvenile hall, detention facility or work camp.

J. Other

Other pertains to those agencies which offer vocational education by a means other than those institutions or educational agencies in the above.

9. Course Designation for Special Students

Indicate with an "X" the classification that best defines "Special Student" for the purposes of program and site design. The choices have been reduced to general categories, therefore, please write in specific handicap and/or disadvantage category. Definitions are those contained in the Vocational Education Data System (VEDS) Technical Assistance Handbook.

A. Disadvantaged refers to persons (other than handicapped) who meet the following definitions:

1. "Economically disadvantaged" refers to any of the following:

   a. Family income is at or below national poverty level;
   b. Participant, parent(s), or guardian of the participant is unemployed;
   c. Participant or parent(s) of participant is recipient of public assistance; or
   d. Participant is institutionalized or under State guardianship.

Operationally, economically disadvantaged may be determined at the secondary level by identifying those students who are participating in a free or reduced lunch program, AFDC (Aid to Families with Dependent Children) program or work-study program. At the postsecondary and long-term adult levels they can be identified from records of basic education opportunity grants or similar financial aid.

2. "Academically disadvantaged" refers to persons who:

   a Lack reading and writing skills;
   b. Lack mathematical skills; and/or
   c. Perform below grade level.

Operationally, academically disadvantaged may be determined at the secondary level by identifying those students enrolled in remedial programs or performing below grade level on standardized tests or failing a grade. For the postsecondary and long-term adult levels academically disadvantaged may be determined by students enrolled in remedial instruction or on academic probation. Substantive evidence of disadvantagement shall be kept on file

B. Handicapped refers to a person who is:

1. Mentally retarded;
2. Hard-of-hearing;
3. Deaf;
4. Speech impaired;
5. Visually handicapped;
6. Seriously emotionally disturbed;
7. Orthopedically impaired;
8. Other health impaired;
9. Deaf/blind;
10. Multihandicapped; or
11. Specific learning disability.

By reasons thereof, special education, training, job conditions and equipment, or other services are needed to enable him/her to succeed in a regular vocational program or on a job.

C. Limited English Speaking Persons (LES) refers to any member of a national origin minority who does not speak and understand the English language in an instructional setting well enough to benefit from vocational studies to the same extent as a student whose primary language is English. Some examples of national origin minorities are persons of Spanish, Chinese, or Italian heritage.

10. Evidence On File of Need For This Course (Action/Minutes/Dates)

A. Student/Community
Enter the appropriate rationale for student or community demand for this course, i.e. documentation for justification of offering course, such as needs assessment, etc.

B. Advisory Committee
Enter the committee's assessment for this course.

C. Labor Market Anslysis
Place an "X" in the appropriate box or boxes which delineate the source of data for your conclusions.

D. Estimated Enrollment Per Section

1. Initial Enrollment Estimation

Enter the estimated "initial" enrollment per section for this course.

2. Developed Enrollment Estimation

Enter the "developed" estimation of enrollment per section for this course.

11. Course Approval (Signature and Date)

For Items A through J, provide signatures, where applicable, and dates.

12. Course Review Dates and Recommendations

Enter the date course has been reviewed with recommendations regarding any changes.

SIDE TWO

COURSE DESCRIPTORS

13. Course Title

Enter the name of the course which is being offered, if applicable, include the number which identifies the course numerically.

14. Course Description

Enter the course description. This is the same description which should appear in the District Master Course Directory.

15. Unique Course Code

Identify the course by a unique four-digit code. It is suggested that this unique code be **numeric** but it **must** be limited to a four (4) digit position. For example:

0181	Drafting	(First Year)
0182	Drafting	(Second Year)
0183	Drafting	(Third Year)

16. Classification of Instructional Disciplines (CID) - (Community College Use Only)

Enter the CID code associated with the course.

NOTE: A CID reflects the program intent and course content of the majority of courses making up the total program. Under the Chancellor's Office Program Approval Process, the course will carry the discipline code under which it was submitted.

17. District Course Number (If Applicable)

Enter the district course code which has been assigned to the course for which the SCO is being prepared. District course codes are used by school/college districts to identify their courses for scheduling and other purposes and are usually found in the District Master Course Directory.

18. Method of Instruction

Indicate the type of instructional method being employed by entering one of the following codes:

A. Lecture

An activity in which the teacher gives an oral presentation of facts or principles, the class frequently being responsible for note taking. This activity usually involves little or no pupil participation by questioning or discussion.

B. Lab

Learning activities provided to pupils in a laboratory designed for individual or group study of a particular subject matter area, involving the practical application of theory through observation, experimentation, and research, or, in the case of foreign language instruction, involving learning through demonstration, drill, and practice. May also apply to the study of art and music, though such activity may be referred to as a studio experience.

C. Lecture/Lab

A combination of learning/instructional activities which may be a laboratory setting during which the instructor intersperses oral presentation of materials at frequent and appropraite intervals with the pupil's participation of demonstration activities.

D. Coordinate Instruction System (CIS)

A system in which a variety of technical methods including the use of mechanical and electronic devices, self-instructional materials, and other similar teaching techniques may be used. (Title Five of the California Administrative Code, 55301)

E. Independent Study

Independent study is an activity in which pupils, carrying on their studies without attending formal classes, consult periodically with one or more staff members for direction and assistance, and frequently work toward the completion of individual study projects.

F. Community Classroom

A community classroom is a site or a series of physical locations away from a school site in which occupational training programs are conducted. A community classroom has as its general purpose the expansion of occupational training opportunities by the use of existing sites and facilities other than those in the public schools. A private postsecondary school under con[illegible] with a public school agency to provide occupational training, pursuant to Education Code Section 33133, shall not be considered a community classroom.

G. Cooperative Vocational Education

Cooperative vocational education is defined as a program/course of vocational education for persons who, through written cooperative arrangements between the school and employers, receive instruction including required academic courses and related vocational instruction by alternating study in school with a job in any occupational field. Those two experiences must be planned and supervised by the school and employers so that each contributes to the student's education and to his/her employability. Work periods and school attendance may be on alternate half days, full days, weeks, or other periods of time in fulfilling the cooperative program.

I. Lecture Series

A lecture series course is an adult class concerned with regulated subjects of educational value excluding those in public affairs. (Title Five of the California Administrative Code, 58160-62.)

19. Credit/Units Required

Enter the required number of units or credits to be granted upon satisfactorily completing the course.

20. Grading System

Indicate type of grading system by placing an "X" in the appropriate box.

A. Credit - Graded

The unit value awarded for the successful completion of certain courses usually designated by alpha letter (A, B, C, D).

B. Non-Credit - Non-Graded

A course for which pupils do not receive a grade or unit credit applicable toward graduation or completion of a program of studies.

C. Credit - Other

The unit of value awarded for the successful completion of certain courses which are intended to indicate the quantity of course instruction in relation to the total requirements for a diploma, certificate or degree.

21. Course Length (Clock Hours)

Indicate, by clock hours, total amount of instructional time assigned to this course.

22. Frequency of Offering

Indicate the course frequency by marking with an "X" one numerical code and one alpha code:

1. Semester
2. Quarter
A. Fall
B. Winter
C. Spring
D. Summer
E. Summer (intersession)
F. Winter (intersession)

23. Time of Offering

Indicate the time the course is being offered by marking an "X" one (if applicable) or two of the following codes:

A. A.M.	D. Weekdays
B. P.M.	E. Saturday
C. Evening	F. Sunday

24. Certificated Course

Place an "X" in the appropriate box if the course will confer a certificate upon completion.

25. Training Objective

Indicate with an "X" the appropriate box which identifies the training objective of the course within the program structure.

26. Occupational Outcome

The expected occupational outcome of training and other preparation is the occupational objective and usually is stated in terms of a specific occupational title. Enter the occupational objective for this course.

27. Program(s) Utilizing Course

Assign the appropriate USOE Code and Title of the training program(s) utilzing this course. The following designations are needed to identify course significance in relationship to the total program and its occupational objectives, however, this assignment cannot be made until the full content of the program is evaluated.

Required	Course contains necessary content to gain skills needed to successfully perform on the job.
Required Optional	To acquire either general knowledge or additional occupational preparation.
Recommended	To acquire either general knowledge or additional occupational preparation

28. **Articulation**

Educational course articulation is a systematic process that enables a student to pursue short-term or long-term educational, occupational or career preparation goals without duplication of courses or levels of competency. This coordination can take place within a single educational establishment, among two or more institutions of a similar level, sometimes referred to as "lateral" articulation, or two or more institutions of different levels sometimes called "vertical" articulation.

Enter the appropriate institution offering vocational education articulation. Refer to Institution Information, Deliverer of Service (Item 8), for the educational institution definitions.

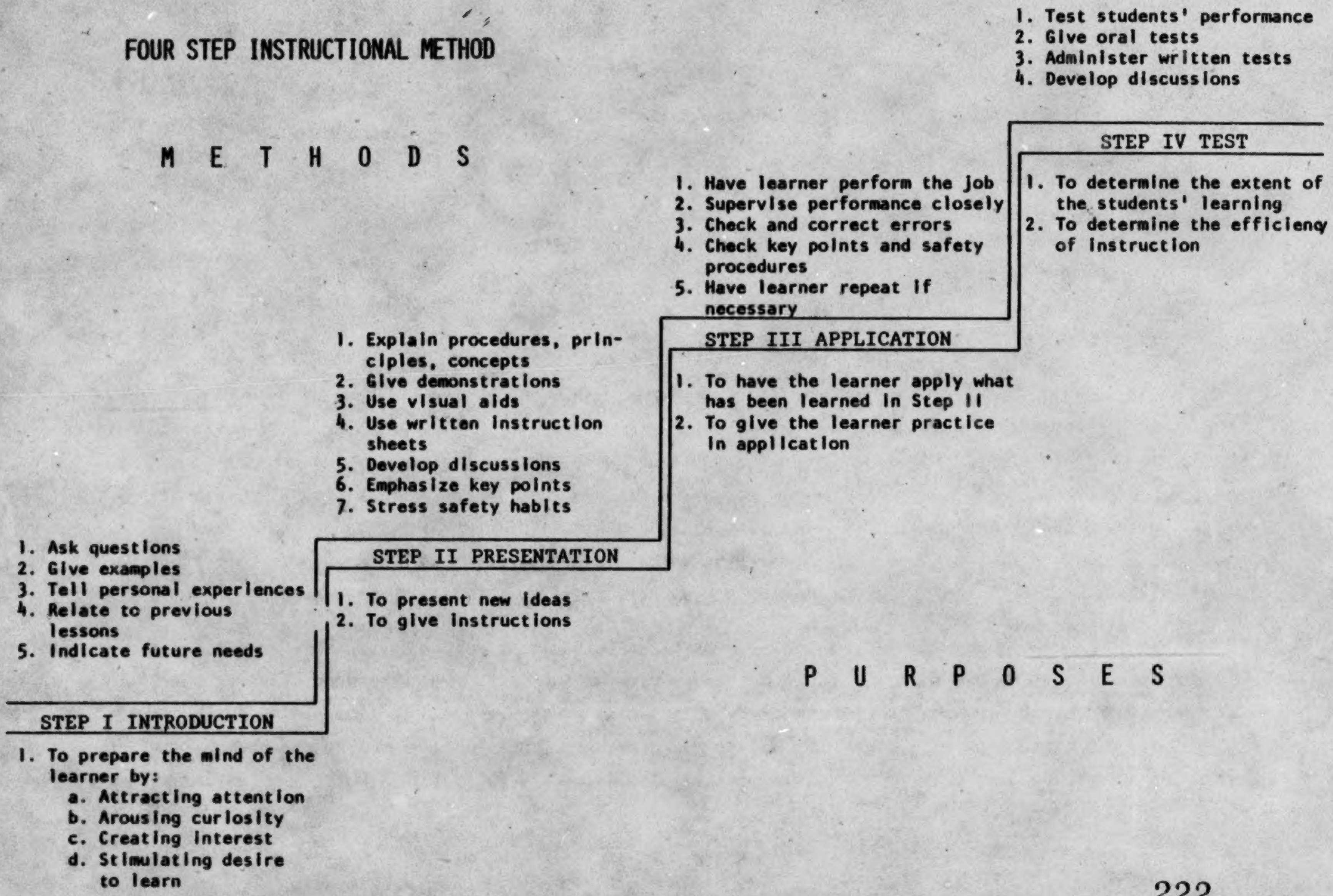
APPENDIX B
LESSON PLANS

A lesson plan is a "simply-stated, clearly-written, flexible and individualized teacher aid for conducting a class." When properly developed, the lesson plan can assist the teacher in: a) conveying pertinent information to the student; b) presenting that information in an appropriate and well-organized manner; c) utilizing the best supporting material; and, d) assessing the students understanding of the information presented and/or acquisition of the accompanying skills.[8]

While there are many methods by which a lesson plan can be developed, the format suggested in this Appendix contains all of the elements essential to effective planning and teaching. Since this format was designed to incorporate the Four Step Teaching Method (see Figure 1), e.g., I-Instruction, II-Presentation, III-Application, and IV-Evaluation, explanations clarifying these various components have been provided. In addition, a section on writing and developing performance objectives has been included as part of this Appendix. The following is a suggested list of those elements which should be included on a finalized lesson plan. Explanations of each and suggestions for their completion are included in this Appendix.

Unit:
Subunit: (Code A, B, C, D)
Subunit Task Description:
Performance Objective:
Tools and Equipment:
Materials:
Teaching Aids:
References:
Time:
I-Instruction: Time
II-Presentation: Time
III-Application: Time
IV-Evaluation: Time
Notes:

FOUR STEP INSTRUCTIONAL METHOD



M E T H O D S

1. Ask questions
2. Give examples
3. Tell personal experiences
4. Relate to previous lessons
5. Indicate future needs

STEP I INTRODUCTION

1. To prepare the mind of the learner by:
   a. Attracting attention
   b. Arousing curiosity
   c. Creating interest
   d. Stimulating desire to learn

1. Explain procedures, principles, concepts
2. Give demonstrations
3. Use visual aids
4. Use written instruction sheets
5. Develop discussions
6. Emphasize key points
7. Stress safety habits

STEP II PRESENTATION

1. To present new ideas
2. To give instructions

1. Have learner perform the job
2. Supervise performance closely
3. Check and correct errors
4. Check key points and safety procedures
5. Have learner repeat if necessary

STEP III APPLICATION

1. To have the learner apply what has been learned in Step II
2. To give the learner practice in application

1. Test students' performance
2. Give oral tests
3. Administer written tests
4. Develop discussions

STEP IV TEST

1. To determine the extent of the students' learning
2. To determine the efficiency of instruction

P U R P O S E S

Figure 1

Unit Number, Subunit Code, Subunit (Task) Description

Identify the unit number, subunit code and subunit (task) description for which the lesson plan is being developed. These should correspond to the information on the detailed course outline which is a part of the SCO.

Performance Objective

Indicate the performance objective for the subunit (task). Correctly written performance objectives describe: (a) what the student will be able to do as a result of the instruction; (b) the conditions under which the task is to be performed; and, (c) the minimum criteria for determining performance. Suggestions for writing performance objectives are included on page of this Appendix.

Tools, Equipment, Materials, Teaching Aids

Indicate the tools, equipment, machinery, materials and teaching aids such as bulletin boards, audiovisual devices, graphics, etc., that will be used to support, explain, or enhance the lesson. The tools, machinery, materials and aids selected should be appropriate to the content of the lesson and supportive of the objective. Review Worksheet #3A for possible inclusions for this sections.

References

List any references by title and page number that may be used to provide further information about or clarification of the lesson.

Time

Indicate the *total* amount of classroom time allotted for this subunit of instruction. The amount of time indicated should correspond to that shown on the detailed course outline.

Introduction/Motivation

Write out the introduction/motivation technique that will be used to introduce the subunit (task) to the students and the amount of time allotted to this section of the lesson plan. The major purposes for an introduction is to acquaint the student with the objective of the lesson, how the lesson relates to them and to past classroom and/or personal activities, and what will be expected of them to learn this unit. In addition, the introduction also serves to arouse and hold the interest and motivational level of the student. Some methods to achieve these purposes include: (a) relating to personal experiences; (b) asking provocative questions; (c) stating future uses of the skills and information covered; (d) giving a brief documentation; and (e) relating to the known interest of the student.

Presentation

Develop the presentation (instructional content) techniques to be used to teach the subunit (task) and indicate the amount of time allotted for this section of the lesson plan. There are a variety of methods in which instructional material can be presented. These include but are not limited to: demonstration, laboratory, lecture, and discussion. Additional methods are considered variations and combinations of these four basic methods. Presentation through demonstration and laboratory are effectively used in presenting new skills. Lecture and discussion are often used to present related information/knowledge and/or theories.

When the method of presentation has been selected, the content should then be planned in either outline or paragraph form. The method used for the presentation may determine how the content is planned. For example, if presenting a new skill through demonstration, it will be necessary to list each step in the exact sequence in which it will be performed including any special safety points related to the activity. If using the lecture method to present a concept or theory, a topical outline which displays the information in a clear, concise, and logical manner may be the best way to plan the instructional content.

It is important to remember that the method of presentation and the instructional content planned should be relevant to the achievement of the lesson objectives.

Application

Complete the application section of this form and indicate the amount of classroom time allotted to this portion of the lesson plan. The application section should contain the specific activities the students are expected to perform in the classroom to enable them to learn the skills and/or ideas which have been presented. Students should be provided with the opportunity to apply their new knowledges and skills either concurrent with or immediately after the Presentation Step. Suggested activities include but are not limited to: (a) assignments; (b) performance of skills; (c) study questions, problems; (d) projects; (e) reports; and, (f) experiments.

Evaluation

Complete the evaluation section and indicate the amount of classroom time allotted to this portion of the lesson plan. The Evaluation Step is a means of determining whether the student has reached the lesson objective. The method of evaluation should be based on the type of objective the students are trying to achieve. For example, if the objective of a lesson is to achieve competency in the performance of a manual skill, a written test would probably not be a good indication of that competency. A better indicator would be to rate the competency by observing the student perform the skill and/or examining the finished product. Other forms of evaluation include essay questions, oral questions, standardized tests, etc.

Notes

A good lesson plan should include a section for notes. Notes serve as a good evaluative device for the plan itself and can include comments on what things did or did not work, what items weren't covered, the questions raised that needed further clarification, and the accuracy of the time allotments for the various sections of the plan. These notes suggest needed improvements of the lesson plan and can help in writing other plans.

PERFORMANCE/BEHARIORAL OBJECTIVES*

A problem that has existed for a long time in education has been that of formulating objectives which clearly define for the student and the teacher the goals of instruction. What makes the development of objectives even more difficult is the range of interpretations existing between educators, not to mention between educators and the lay public. How many times have you encountered course objectives like these?

> "The student will know how printing developed," or
> "The student will know how a sewing machine operates," or
> "The student will appreciate the aesthetic design of a building."

These objectives are so broad and general that no two people could agree as to what extent the student should achieve the objectives. Further, the student has no specific idea of what to study in order to achieve these objectives.

To begin the development of useful objectives, the "ideal" graduates of the course are examined and their abilities are broken down into measurable behaviors. It is important to realize that these behaviors are accomplished according to degree, e.g. some tasks are performed with the skill of an artisan; others involve only a demonstration of an ability to perform.

These behaviors or performance objectives are then given at the beginning of the course to the student. When the students know what they will be capable of doing after they complete the course, they will have some guidelines as to what to concentrate on during the course. The objectives help them further by telling them the conditions under which they will be performing, and how well they must perform to be acceptable.

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* The terms performance and behavioral objectives are for the purposes of this explanation to be considered synonymous.

The development of behavioral objectives occurs as follows:

1. The outcomes must be identified in behavioral terms.
2. Behavioral objectives are formulated which describe what the student is to be able to do as a result of the instruction.
3. Conditions under which the task is to be performed are described.
4. Some criteria are identified that will suggest at least the minimum achievement necessary for satisfactory performance.

Correctly written behavioral objectives contain numbers 2, 3 and 4 from the above list. These objectives inform both the teacher and the student what will be expected in terms of abilities, conditions and standards. If the objectives are thorough and well-written, they can be handed to a student to immediately pursue whatever study is necessary to accomplish the objective, without the usual anxieties and frustrations that precede examination time. Furthermore, these objectives can be handed to either an educator or lay citizen with the resulting identification of the specific outcomes of the course. An observer may be capable of entering a class in progress and assessing the achievement of certain objectives within one class period.

There are times when, even though the teacher knows perfectly well the objective, s/he cannot put it in writing so that it conveys the thought. There are words that are open to many interpretations, and words that are open to few interpretations. The following list illustrates this comparison:

"Many Interpretations"	"Few Interpretations"
to know	to write
to understand	to recite
to really appreciate	to identify
to fully realize	to differentiate
to grasp the significance of	to solve
to enjoy	to construct
to believe	to list
to have faith in	to compare

Behavioral objectives usually start out with, "The student will be able to..." and then the task is described. Certain objectives require behaviors that demonstrate thinking while others require the performance of a computational or a manipulative task. If the student is to be able to recognize names of tools, for example, the objective would be stated:

1. The student will be able to recognize the names of tools from a prepared list.

A difficulty still exists here, since we do not specify what kind of list, whether it contains tools in addition to other names, and finally, we do not specify whether s/he must recognize all tool names or some specified percent of the total to be considered satisfactory. An improved objective might look like this:

2. The student will be able to recognize at least 18 out of 20 names of tools which are included in a list of 40 items commonly found around the shop; or

3. Given a list of 40 items commonly found around the shop, the student will be able to recognize 18 out of 20 names of tools included in the list.

Although this is a very elementary objective, it serves to point out the descriptive nature of behavioral objectives. If this was your objective, you would know that you should concentrate on recognition, not recall from memory, or the specific use of the tool, or its care. You would also know that you would have to recognize at least 18 tool names, which means that you would not quit studying after being able to recognize only 10.

A few sample behavioral objectives are listed:

1. Given a television receiver with a defective power supply, the student will locate the trouble using standard measuring instruments (or those in your shop which you would specify) and suggest the remedy on a piece of paper.

2. Given a piece of two-inch aluminum bar stock six inches long, the student will use the ____________ lathe and turn a 50% taper within .005 inch.
3. Given an operational Ford ignition distributor, the student will be able to install it on the shop Ford engine correctly and adjust its timing within one degree with the aid of a timing light.

The following chart is a "Quick Guide to Writing Performance/Behavioral Objectives" and should prove useful to any teacher who is faced with the task of writing performance/behavioral objectives for his/her course.

Elements of Performance/Behavioral Objectives

Conditions

Without reference to outside materials...

With the aid of a textbook...

With the aid of his/her class notes...

Outside the classroom...

Given the proper tools and measuring equipment and needed supplies...

In a 10-minute period...

With a supply of common tools and equipment...

Behavior

Answer, Apply, Appraise, Arrange, Assemble, Build, Calculate, Choose, Compare, Compose, Complete, Conduct, Construct, Convert, Correlate, Demonstrate, Describe, Design, Develop, Differentiate, Discriminate, Draw, Evaluate, Fix, Formulate, Identify, Interpret, List, Maintain, Make, Measure, Operate, Plan, Provide, Quantify, Read, Recite, Repair, Select, Shape, Sketch, Solve, Test, Troubleshoot, Use, Write, etc...

Criteria

Perform with 85% accuracy...
Identify 10 of the 12 principles...
Analyze correctly to within 5% tolerance...etc.

Some Suggested Action Words For Use In Writing Goals and Objectives:

Apply
Appraise
Arrange
Assess
Build
Calculate
Compare
Conduct
Construct
Contrast
Convert
Coordinate
Correlate
Differentiate
Demonstrate
Describe
Discuss
Distribute
Draw
Evaluate
Formulate
Handle
Identify
Initiate
Interpret
List
Maintain
Make Plans For
Measure
Meet With
Operate
Organize
Participate
Plan
Prepare
Present
Propose
Promote
Provide
Publish
Recite
Represent
Schedule
Select
Serve
Set Up
Solve
Study
Supervise
Use
Visit
Write

PROGRAM/COURSE INVENTORY

PROGRAM INFORMATION

A CDS ______________

B USOE ______________

D CID ______

E DISTRICT ______________

F SCHOOL/COLLEGE ______________

H USOE PROGRAM TITLE ______________

I MIN COMPLETION REQ'MTS ______________ **J** MEETS STATE PLAN ☐

K PROGRAM LENGTH ______________ **L** NEW ☐ CONTINUING ☐ PROPOSED ☐

M LOCAL LOCATOR CODE (OPT) ______

N FOR DATA PROCESSING USE ONLY (OPT) ______

C DELIVERER OF SERVICES
- ☐ A. SECONDARY
- ☐ B. COMMUNITY COLLEGE
- ☐ C. ADULT SCHOOL
- ☐ D. ROP/ROC
- ☐ E. PRIVATE
- ☐ F. CETA

G PROGRAMS/STUDENT GOALS
- ☐ A. AA/AS DEGREE
- ☐ B. INITIAL OCCUPATION
- ☐ C. SKILL UPGRADING
- ☐ D. COLLEGE TRANSFER
- ☐ E. COLLEGE GENERAL ED.
- ☐ F. CERTIFICATES
- ☐ G. HIGH SCHOOL DIPLOMA
- ☐ H. ELEMENTARY DIPLOMA
- ☐ I. LICENSE PREPARATION
- ☐ J. PERSONAL DEVELOPMENT
- ☐ K. CAREER EXPLORATION

COURSE INFORMATION

*TITLE/S LIMITED TO 18 CHARACTERS/SPACES

1	2	3	4	5	6*	7	8	9	10	11	12	13

COLUMN LEGEND

1 LINE NO.

2 UNIQUE COURSE CODES

3 CID—CLASSIFICATION OF INSTRUCTIONAL DISCIPLINES

4 OCN—DIST. COURSE NO.

5 S—MEETS STATE PLAN

6 IDENT. & TITLE

DATE ______________

PG ______ OF ______

7 OCCUPATIONAL OBJECTIVES
- A. APPRENTICESHIP
- B. ADVANCED OCCUPATIONAL
- C. INTERMEDIATE OCCUPATIONAL
- D. BEGINNING OCCUPATIONAL
- E. NON—OCCUPATIONAL

8 HOURS

9 CREDITS/UNITS REQ.

10 UTILIZATION
- A. REQUIRED
- B. REQUIRED OPTIONAL
- C. RECOMMENDED

8-78

11 FREQUENCY
- 1. FALL
- 2. SPRING
- 3. FALL & SPRING
- 4. SUMMER
- 5. FALL & SUMMER
- 6. SPRING & SUMMER
- 7. FALL, SPRING & SUMMER
- 8. FLEXIBLE
- A. WINTER
- B. FALL & WINTER
- C. WINTER & SPRING
- D. FALL, WINTER & SPRING
- E. WINTER & SUMMER
- F. FALL, WINTER, SUMMER
- H. WINTER, SPRING & SUMMER
- J. FALL, WINTER, SPRING, SUMMER

12 DESCRIPTION
- A. LECTURE
- B. LAB
- C. LECTURE-LAB
- D. COOR. INST. SYS.
- E. INDEPENDENT STUDY
- F. COMMUNITY CLASSRM.
- H. COOPERATIVE VOC. ED.
- J. FORUM SERIES
- K. LECTURE SERIES

13
- 1. AM
- 2. PM
- 3. AM/PM (ALL DAY)
- 4. EVENING
- 5. AM/EVENING
- 6. PM/EVENING
- 7. AM/PM EVENING
- 8. FLEXIBLE

OCCUPATIONAL INFORMATION

A CDS

B USOE CODE

C DELIVERER OF SERVIC
☐ A. SECONDARY SCHO
☐ B. COMMUNITY COLL
☐ C. ADULT SCHOOL
☐ D. ROP/ROC
☐ E. PRIVATE
☐ F. CETA

14	15	16
DOT CODE/S	OCCUPATIONAL PROGRAM OUTCOME OCCUPATIONAL TITLE/S	GED RML

APPENDIX C
THE PROGRAM COURSE INVENTORY (PCI)

The Program Course Inventory (PCI) is an instrument that defines vocational education programs in terms of the courses of which they are comprised and their occupational objectives. When the PCI is prepared and placed on top of the Course Outlines (see Appendix A) and the lesson plans (see Appendix B), a complete packet is available to anyone who requires information on the program as a whole, the specific courses comprising it, the occupations for which it trains and the related instructional content. In addition, this packet can also serve as part of the program's documentation.

Since the explanation and instruction manual for the PCI is quite lengthy, it has not been included as part of this publication. While many parts of the form are self-explanatory, it is recommended that the accompanying manual is obtained by anyone utilizing the PCI. For information regarding this publication please contact:

Ventura County Superintendent of Schools Office
Vocational Education Special Projects Unit
535 East Main Street
Ventura, CA 93009
(805) 487-7711, Extension 4429

Appendix D

Page ___ of ___ **OCCUPATIONAL OUTCOME (DOT) SELECTION** Task Analysis Worksheet 1

Section A. - USOE Program Code, Title and Descriptor

Workspace 1	DICTIONARY OF OCCUPATIONAL TITLES 4th CODE 4th EDITION TITLE	GED R.M.L	S V P	PHYSICAL DEMANDS	WORKING CONDITIONS	DOT IND CODES	Workspace 2
	Section B. List of Occupational Outcomes (DOT 4th Edition)						

Page ___ of ___

DOT OCCUPATIONAL TASK LIST

Task Analysis Worksheet **2**

4th Edition DOT Code Number, Title and Descriptor

USOE PROGRAM CODE:

USOE PROGRAM TITLE:

Lead Statement:

Equipment, Machinery, Tools, Job Aids, Additional Knowledge/Skills:

Importance of Task to Student's Performance on Occupation

Task #		REQUIRED	RECOMMENDED	OPTIONAL

Page ___ of ___

TASKS GROUPED INTO COURSES

Task Analysis Worksheet 3A

USOE PROGRAM CODE AND TITLE: ______________________
(See Worksheet #1)

TASK NUMBER	TASKS	COURSE TITLES											

Page ___ of ___

TASKS GROUPED INTO COURSES

Task Analysis Worksheet **3B**

USOE PROGRAM CODE AND TITLE: ____________________
(See Worksheet #1)

TASK NUMBER	TASKS	COURSE TITLES											